

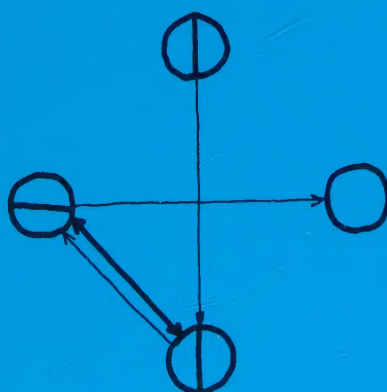
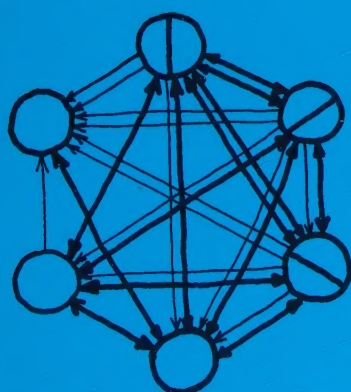
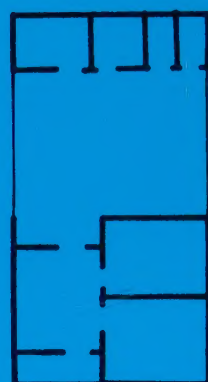
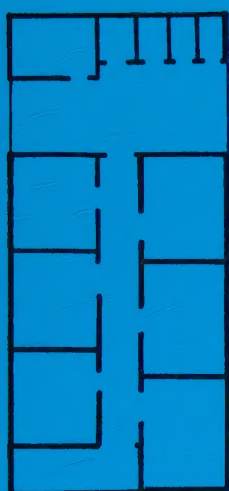
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SOCIAL LIFE AND DWELLING SPACE

AN ANALYSIS OF THREE HOUSE TYPES IN DAR ES SALAAM

DICK URBAN VESTBRO



SOCIAL LIFE AND DWELLING SPACE
AN ANALYSIS OF THREE HOUSE TYPES IN DAR ES SALAAM

av

Dick Urban Vestbro
arkitekt, Vrml

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Social Life and Dwelling Space

An Analysis of Three House Types in Dar es Salaam

By

DICK URBAN VESTBRO



Planning of the people (pirate town in Lusaka, Zambia).

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Foreword

The origin of this thesis goes as far back as 1966, when I was employed at the Department of Building Function Analysis, School of Architecture, The Lund Institute of Technology. It was agreed with the head of the department, Professor Carin Boalt, that part of my work as an assistant teacher should be devoted to the compilation of documents about housing and building in underdeveloped countries.

At the encouragement of Professor Boalt a research project was initiated under the preliminary title "Family and Housing in an East African town" with the aim of carrying out a field work in East Africa. The project was also supported by Professor Lennart Holm, then Director of the National Swedish Institute of Building Research and responsible for the course in Housing at the Royal Institute of Technology. Economically the project was made possible by a grant from the Tercenary Fund of the National Bank of Sweden and by a scholarship for post-graduate studies from The Lund Institute of Technology.

The research project would probably not have been started without the initiative of Professor Boalt and this thesis would not have been completed without her constant encouragement and active interest in the various problems of the thesis - an interest which finally brought her to East Africa (in 1974).

During most of my time in Tanzania I lived in an urban Swahili type house in Magomeni, Dar es Salaam, together with a varying number of co-occupants whose friendship was a necessary condition for carrying out the field work. I am especially grateful to the house owner, who did not hesitate to accept me as a tenant, and to Mohamed's family, into which I was more or less adopted during my stay in the house. Social scientist Christina Bartlett, who lived in another part of Magomeni in an urban Swahili type house, provided me with a great deal of useful information based on her good knowledge of Swahili and on her active participation in work together with the women in her house. I also want to thank the interviewers and the observers, who carried out tasks which I could not have done, and many other Dar es Salaam inhabitants who remain anonymous in this thesis.

Finally I owe special thanks to Professor Torvald Åkesson, who was always prepared to assist me; to Professor Sven Thiberg, whose encouragement enabled the termination of this thesis in time; to Karin Harboe, who corrected my mistakes in the English language (but who is not responsible for those that remain); and to Birgith Wirén, who efficiently carried out the typing of the final version for printing.

Stockholm in April 1975

Dick Urban Vestbro



Planning of the ruling class (Nairobi, Kenya).

1 Introduction

This thesis is submitted to the Department of Building Function Analysis, School of Architecture, Lund. The subject requires some explanations. In Sweden the discipline of building function analysis originates from studies made by The Home Research Institute in the 1940's and from sociological housing studies of the 1950's. The subject has been influenced by anatomical-ergonomic as well as sociological-statistical thinking. Within the architectural education it was preceded by a course in Housing which dealt with problems such as housing policy, dwelling habits, analyses of type plans and changes in household structure.

In 1964 the subject of building function analysis was established as one of three corner stones in the basic architectural education (Form, Construction and Function) at the Lund Institute of Technology. The idea was that "social factors" should to a greater extent influence physical planning. Architects should be able to better understand human demands and also be capable of carrying out their own building function analyses. The emphasis was thus laid on the question of how human beings (or animals for that matter) function in buildings and not on technical functions of the building itself. An underlying assumption was, of course, that the construction of buildings affects human behaviour and perhaps society as a whole.

In order to further explain what the subject comprises, a quotation can be extracted from the latest programme of the professorship of the Department of Building Function Analysis, School of Architecture, Lund:

"The subject deals with relations between the human being and built environment, seen from the point of view of those individuals and groups who use the environment. The field of application comprises various activities at different levels of the built environment in various social and cultural conditions. A vital task is to apply experiences and insights from this field of knowledge in the process of building." (Byggnadsfunktionslära 1975, translated from Swedish)

Thus, in the physical planning process, building function analysis is the work done before the actual designing begins, and also the work to be done after the construction of the building. Building functional studies may end in building programme or in the formulation of what has been called "users' requirement on buildings". In the 60's residential environment was almost the only subject of analysis, but later on schools, hospitals, industries etc have also been subjected to building function

analyses.

*

When, in 1964, I made my graduate work on housing with collective services such as nurseries and central dining halls, submitted to the Department of Housing, my interest for building function analysis was born and I decided that I wanted to apply the building function approach, developed in Sweden, to a foreign culture.

I began collecting information on housing and building in underdeveloped countries and I soon found that documents about climatic, economic and technical aspects, especially of low-cost housing, were available, while social and building functional aspects were not quite as well covered. The research project, which was initiated in 1966, had the following purposes:

1. To investigate to what extent the building functional approach - developed in an industrialized, West-European environment - could be used in a pre-industrial rapidly urbanizing society.
2. To assist in evaluating traditional and modern low-cost house types in an underdeveloped country.
3. To analyse the relationship between human behaviour and built environment in order to arrive at a better theoretical understanding of this crucial relationship within building function analysis.
4. To establish contacts with relevant institutions and collect material for an increased international element in education and research at the School of Architecture.

Thus, there are great variations in purpose, and a separation of tasks became a natural solution. The research project, of which this thesis is the final result, has been divided into the following stages:

1. Compilation of literature and making contacts with institutions and individuals dealing with housing and housing research in underdeveloped countries (mainly in Africa).
2. An inventory trip to 16, mainly African, countries during which I a) made interviews with persons responsible for physical planning, housing policy or housing research; b) carried out photographic registration of shanty towns and low-cost housing areas; c) investigated the scope for a field study, and d) collected written and other documents

about housing and building in the respective countries.

3. Writing of a report from the trip (Vestbro 1968a) and the compilation of a partially annotated bibliography on Family and Housing in Developing Countries (Vestbro 1968b). This stage also comprised preparations for the field study.
4. Field study in Dar es Salaam, Tanzania
5. Processing of collected data.
6. Theoretical studies and writing of thesis.

*

The purpose of a study should determine the planning and execution of it, but it is a well-known fact that other, incidental, factors intervene and affect the intended procedure.

It would be wrong to describe each problem area selected as a logical consequence of a preceding formulation of purpose; each sub-problem as a consequence of a general problem analysis, and each method of investigation as the only logical consequence of the problem formulation. Below I will give some examples of intervention of circumstantial factors.

Example 1. When investigating the possibilities for carrying out a field study in Tanzania one of the plans was to compare house forms and household structure in the various stages of the process of urbanisation (rural village, small town, pirate town and low-cost housing area of large city), but lack of resources made this type of study impossible. It was therefore abandoned altogether.

Example 2. My previous interest in the question of collective house forms probably became decisive for the selection of the urban Swahili type house as the main object of study. Without deviating from the general purposes of the whole research project, completely different housing areas, house types and social aspects could have been selected for investigation. Some preparations had in fact been made for carrying out the field work in Kampala, Khartoum, Addis Ababa or Lusaka.

Example 3. Research permits were issued through the 2nd Vice-President's office for all research projects in Tanzania. Waiting for the permit I could prepare for the interview and observation studies, but when, after six months in Tanzania, I had to start employing interviewers and observers and I had still not received the permit, then I began to question the whole study and considered moving to another country. It is difficult to say to what extent the delay affected the execution of the interview and observation studies.

Example 4. In order that the study should contribute to the improvements of Tanzanian housing I tried at the beginning to involve the National Housing Corporation; the Building Division of the Ministry of Communications and Works; the Town Planning Division of the Ministry of Lands, Housing and Urban Deve-

lopment etc into the planning of the field study. These authorities were headed by European expatriates, who were to be replaced in the near future and no active participation in the project was obtained from them. In combination with the theoretical difficulties encountered, this led to a shift in emphasis from purpose no 2 to purpose no 3 with possible subsequent consequences for the course of the project.

Example 5. As is shown in chapter 4, the traditional Swahili type house as described by Prins (1961) constitutes something of a "missing link" between the Swahili stone house and the rural Swahili type house of today. Since Prins presents only a written description of the plan type of the house, and since I was not sure of how to interpret Prins's description until I found the description by Ingrams (1967), I was prepared to reject the theory that the Swahili type house of today originates from the Swahili stone house. Thus the fact that Ingrams's book was available at the Royal Library in Stockholm had a significant influence upon my analysis of the historical development of the Swahili type house.

*

When analysing any empirical material it is unavoidable that new problems are discovered and that previously formulated problems are revised in the light of new evidence. This faces the researcher with the problem of how to make an honest presentation of the research process. Should he present all problems as if they were formulated before the execution of the field work or should he present the problems as a "result" of the findings?

In the case of this study I found, during the analysis of the empirical material, that many problem formulations were inadequate or based on false or too vague assumptions. Therefore they were reformulated, divided and grouped according to a system which developed in the process of analysing the collected data.

In the thesis I have tried to achieve "honesty" by indicating in each chapter which assumptions and sub-assumptions were formulated in the plan for the field study and which were added later, and also by continuing the problem analysis after the presentation of the empirical material in certain chapters. However, out of consideration for the reader (if nothing else), all mistakes and blind alleys have not been presented.

The fairly strict division into basic assumption, main assumptions, assumptions and sub-assumptions is not meant to give the impression that these assumptions were formulated before the collection of data started. The division was made afterwards, as a method of structuring my own thinking and to separate relevant factors from irrelevant ones. The formulation of assumptions might also give the impression that a proper statistical testing is attempted, but this is not the case. Instead of "testing hypotheses" I am "discussing" whether or not "assumptions" are "supported" or not.

Although I have a statistical material, it is not randomly sampled and usually the basic variable "spatial organisation" can not be isolated from other variables so as to allow for proper statistical testing. Therefore I have mainly used the empirical material to discuss problems and give indications of correlations etc, which I think is perfectly justified in a subject such as building function analysis.

Most of the analysis in the background chapters (3, 4 and 5) is made after the field study, but it is still presented as background. Much of the literature referred to in chapters 9-13 is also read after the field study, although it is discussed in the respective problem analyses. This is because the literature "belongs to" a certain section.

I think that the accepted way of presenting a thesis such as this does not reflect correctly the process of learning. The conventional way of presenting a research project including a field study is to start with a theory, divide this into problem areas, specify problems, assumptions and methods of investigation; analyse the empirical material, and, finally, draw conclusions. In reality theorizing and empirical experience develop simultaneously in a dialectical process, in which the two elements condition each other. In this thesis such an approach is attempted in the respective problem discussions, but the disposition of the whole thesis still follows the conventional

model, separating background, problem analysis, methods of investigation, presentation of empirical material, and conclusions from each other.

*

Those readers who are especially interested in theoretical questions are recommended to read chapter 5 (especially sections 5.4, 5.5 and 5.9), chapter 6 (especially sections 6.1 and 6.2), sections 7.8, 9.1, 10.1, 10.2, 11.1, 11.3, 12.1, 12.2 and chapter 17. My ideological points of departure are presented in chapter 3, but also in the more theoretical parts. The general background to the empirical study is presented in chapters 4 and 5, and the particular (concrete) background is presented in chapters 6, 7 and 8. Evaluation of house types is discussed in chapter 4, in sections 5.1-5.3, 6.3, 6.5, 7.3-7.6, 9.11, 10.4-10.7, 10.12, 11.8, 11.15, 12.13, 13.1, most of which is summarized in section 17.5. Methodological problems are discussed in chapters 8, 14, 15 and 16 and summarized in section 17.1. The list of literature contains all documents referred to in the text plus a limited number of titles, which are not mentioned in the text but which are still considered important. The most important titles have been marked in the list in order to provide the reader with a more useful orientation of the material.

2 Summary

Background

The research project, of which this thesis is the final result, was initiated in 1966. It has been carried out at the Department of Building Function Analysis, School of Architecture, University of Lund. The Head of the Department, Professor Carin Boalt, has been the tutor of the project. The Tercenary Fund of the National Bank of Sweden has financed the major part of the project.

Purpose of study

The two main purposes of the study presented in the thesis are:

- To analyse the relationship between social life and the organisation of dwelling space in order to arrive at a better theoretical understanding of this crucial relationship within building function analysis.
- To assist in evaluating three common house types in Dar es Salaam, Tanzania.

Research tradition

Housing research in Africa, like housing policy in general, carries a heavy burden of colonial thinking. Under colonialism urban housing for Africans had the objectives to minimize costs and maximize control. The result was, on the one hand, minimum standard "low-cost" housing as developed by the mining companies in central and southern Africa, and, on the other hand - when control could no longer be upheld-unplanned, "illegal" pirate towns (squatters, bidonvilles etc) where the poor urban masses use their own skills and powers of inventiveness to provide shelter for themselves.

The real boom for urban housing research in Africa occurred in the 1950's when the colonial powers started to prepare for a transformation to formal political independence, while retaining economic control. This thesis demonstrates that housing policy and housing research were used to promote the formation of a "stabilizing middle class" to which government duties could be handed over on "independence". I have tried to rid myself of this biased research tradition.

Development of house types in East Africa

Starting from the seemingly harmless allegation that the most common house type in coastal towns of East Africa today originates

from the 16th century Arab-influenced stone buildings of the Swahili city states, a comprehensive discussion is conducted on the development of house forms in East Africa, with particular reference to the Swahili type house.

After having demonstrated that promotion of an African house-owning class, on whom fell the task of providing accommodation (at a good price) for urban job-hunters, combined with the special building tradition along the coast, determined the spatial organisation of the urban Swahili type house, it is concluded that this house type probably owes its origin to the Swahili stone buildings.

The one-family and multi-family units of the National Housing Corporation of Tanzania are regarded as "modernized" but less versatile versions of the spontaneously developed Swahili type house, while the Quarter type house is considered to be a colonial desk construction, although with some climatic and other advantages.

Determinants of house forms

On the basis of the analysis of the development of house types along the East African coast, some theoretical reflections are made about determinants of house form in general. The theory of Amos Rapoport, as presented in his book "House Form and Culture", is examined and criticized on certain points, especially concerning Rapoport's incapacity for understanding contradictions, e.g. that between indigenous economic, social and cultural elements on the one hand and imperialist forces on the other. The Swahili type house is compared to the parcelle house of the Belgian Congo and the "Brazilian" house of the Yoruba cities.

Basic and main assumptions

For the study of the three selected house types in Dar es Salaam, which are considered to differ principally in collective spatial organisation, the following assumptions are formulated:

Basic assumption: There is a correlation between the organisation of dwelling space and social life in the dwelling.

Main assumption A: The spatial organisation of the urban Swahili type house imposes a comparatively high degree of interdependence between the occupants.

Main assumption B: The spatial organisation

Table 2:1. Problem areas and methods of investigation. "x" in brackets signifies contributing, but less important method.

Method of investigation	Literature	Key person interviews	Participant observation	Observation with observers	Structured interviewing	Photographical registration	Study visits
Problem area							
Housing and housing research	x	(x)					(x)
Historical development of house types	x	x				(x)	(x)
Basic and main assumptions	x		x				(x)
Life in Magomeni			x			x	x
House types and attitudes	x	(x)	(x)		x		
Use of space			x	x	(x)	x	(x)
Overcrowding	x		(x)	x	x		
Neighbourly contact	x		x		x		
Security in the house	(x)		x		x		x

of the Quarter type house permits a comparatively high degree of freedom of choice between private and communal life.

Main assumption C: The spatial organisation of the NHC one-family house is such that it isolates the household from neighbouring households.

In the subsequent analysis the focus is on main assumptions A and B, while main assumption C is less discussed. The respective assumptions are analysed under the following chapter headings: House Types and Attitudes to Housing, Use of Dwelling Space, Overcrowding, Neighbourly Contact, and Security in the House.

Methods of investigation

A six month participant observation study was carried out as a formulatory study, on the basis of which problems of investigation. The methods used for the respective problem areas can be seen in table 2:1.

Execution of the field study

Observers were employed for the observation study. Because of the difficulties expected, the observers were at first instructed to carry out anonymous observations in house where they already had contacts. When it was found out that the cautions measures taken were unnecessary, random sampling could be made. Since a fair number of urban Swahili type houses had already been observed, proper random sampling was in fact only made for the Quarter type and the NHC one-family houses.

With the house as sampling unit 39 urban Swahili type houses, 20 Quarter type houses and 32 NHC one-family houses were selected, i.e. altogether 91 houses, of which the first two house types were in the township of Magomeni, while the last house type was in the neighbouring Kinondoni area.

The 59 houses selected for observation were estimated to accommodate about 860 persons, out of which 548 were observed. The 91 houses selected for interviewing were estimated to accommodate 328 heads of household, out of which 297 were actually satisfactorily interviewed. Out of the 185 wives selected for interviewing, only 146 remained in the final interview sample.

Although a proper random sample was not obtained, comparisons with the figures of the 1967 Population Census indicate that the sample is representative of conditions in the respective house types with only one or two exceptions.

With the support from the National Housing Corporation the house owners and the ten-cell leaders concerned were informed about the purpose and scope of the study. The task of gaining the confidence of the people studied is considered to have been satisfactorily solved.

In the observation study a possible bias might have come from "estimates" made away from the house to be observed during limited periods of time. In the interview study one of the interviewers (Tanzanian university students) appeared to have been negligent so as to distort at least the replies to some of the attitude questions.

Major conclusions

About the methods of investigation it is concluded that the complex nature of the prob-

lems, and the fact that the house types differ in many respects apart from spatial organisation, make a statistical approach with structured interviews less fruitful. Observation through employed observers is considered to be appropriate for the study of use of space, but a smaller number of observations would probably have given equally useful information, and could thus have saved resources.

It is my opinion that more time should have been devoted to participant observation, especially in the Quarter type house and the NHC one-family units, and that unstructured interviews should to a greater extent have been made in order to complement the structured interviews. Such an approach could also have been combined with a more detailed registration of peculiarities in house construction, especially in the privately built urban Swahili type house.

In the chapter on house types and attitudes to housing it is concluded that the relationship of the basic assumption is of such a complex nature that it can not be traced through general attitude questions. However, the concrete question of problems with house types did reveal a high awareness of advantages and disadvantages of the spatial organisation of the respective house types. The replies indicated support for main assumption A, B and C.

It is also concluded that the studied house types are associated with different social status, which depend not only on the objective housing qualities, but also on general ideological climate and, for instance, the fact that the privately built urban Swahili type house has been subjected to government slum-clearance schemes.

In the chapter on use of dwelling space it is concluded that differences in use of space are much larger between people of different position in the household (head, wife, child) than between inhabitants of the different house types, but that the latter type of differences are also obvious, and not only in trivial respects.

The often voiced opinion that private rooms are mainly used for sleeping and for storage of personal belongings is criticized as being unfounded. People in the urban Swahili type houses are shown to spend more time in communal dwelling spaces, but this is considered to be a fairly trivial conclusion as long as it is uncertain whether, because of this, people are also more communally oriented. Support for the basic assumption is indicated.

In the chapter on overcrowding it is concluded that - although other than private, indoor dwelling spaces are related to the concept of "crowding" - the private rooms are of crucial importance since sleeping and sex-life have to take place there and since other functions as well are usually located to such spaces. Therefore, the conventional measure of overcrowding, number of persons per private room, seems to be useful, although it should be complemented with other measures.

Overcrowding, measured in number of persons per bedroom, is mainly a problem for households with children, but attitudes to children sleeping in the same room as their

parents are shown to vary greatly. For at least 13 per cent of the studied households an incongruence is revealed between attitudes to the age of the oldest child sleeping in the same room as its parents and the actual sleeping situation of the household.

It is also pointed out that a better theoretical framework is needed for the study of overcrowding. The lack of reliable subjective measures of overcrowding makes it difficult to evaluate the objective measures according to the valuations of those subjected to overcrowding.

In the chapter on neighbourly contact it is found that fairly frequent neighbourly co-operation exists in both the urban Swahili and the Quarter type houses, but no definite conclusion is drawn about differences between the house types, because of the difficulty to interpret the results.

The two house types are found to be more heterogenous in social composition than could be expected even from a random distribution of types of household, religion and income of heads of household.

Owners of urban Swahili type houses sometimes give preference to married tenants, but probably not in order to avoid "tension and suspicion" between married and unmarried people in the house. It is concluded that "tension and suspicion" is a frequent concern for many respondents, but no differences are found between the two relevant house types.

A concrete question related to the assumption about correlation between spatial organisation and neighbourly contact is the one about the placing of the door in the urban Swahili type house. People with familiar relations in the house more often want their door towards the corridor. Desires about the placing of the door is also considered to be an indication of whether or not privacy is regarded as more important than security in the house.

I think that it is impossible, even with a matched sample, to keep things such as distribution of types of household, occupation, length of residence, number of households per house etc equal, so that a quasi-experiment with a statistical method can be applied for measuring the influence of spatial organisation upon neighbourly contact. Therefore, the method of participant observation is recommended for further studies.

In the chapter on security in the house it is concluded that the frequency of objects worth stealing rather than the degree of collective spatial organisation seems to be decisive to the occurrence of burglaries in the house. However, the sense of security is shown to be stronger in the urban Swahili than in the other house types.

Concerning the basic and main assumptions it is concluded that correlations between social life and the organisation of dwelling space have been found in certain specified respects. It is argued that the value of the study does not depend on whether or not the assumptions are supported, but on whether or not it has contributed to a better understanding of the problem.

In the final chapter, theoretical comments are given to the problems of overcrowding

and neighbourly contacts, with reference to literature considered relevant to the subject. Recommendations are also given for future research.

Concerning evaluation of house types "users' requirements" are listed and matched against the qualities of the four studied house types. However, no attempt is made to present the "ideal" housetype. Final decisions about house types must be made on the basis of political consideration involving the poor urban masses.

My personal judgement is that the urban Swahili type house, including the privately

built one, has enough merits to justify continued construction of this house type, at least as long as temporary accommodation is demanded by migrating job-hunters. If technical improvements such as creosoting of poles, water-proof plastering, cemented floors and provision for cross-ventilation are made and combined with a co-operative organisation, which could eliminate the profits of private house-ownership, the mud-and-pole urban Swahili type house could probably be a very cheap and still decent type of housing for urban dwellers in East Africa.

Figure 2:I. Traditional Swahili type house exhibited at the Village Museum, Dar es Salaam.



Figure 2:II. Improved urban Swahili type house in Kariakoo, Dar es Salaam.



3 Housing and housing research in Africa

No research is unprejudiced. To say that such is the case would be to deny that the researcher and his research project are products of a specific historical and social situation. Even if he wants to be impartial, each researcher is dependent upon the research tradition within his field and upon the environment in which his hypotheses are formulated and tested.

Instead of pretending to be impartial I want, in this chapter, to present my preconceived ideas, as clearly as possible, by trying to outline what I consider to be the most important factors in the tradition of housing and housing research in Africa. The quotations from various colonial and other documents are included not as examples of the most typical expressions of a certain group of people, but as examples of what I consider to be particularly revealing expressions of this group's ideology.

3.1 The scope for studying popular architecture

There is no reason why the discipline of building function analysis should restrict itself to the study of expert-designed buildings. In a world-wide perspective such buildings comprise only a minute fraction of all man-made physical structures. Doxiadis (1964: 71f) gives an overall figure of five per cent as being an average of a large variation from 40 per cent in England to close to zero in many underdeveloped countries.

By upholding the conventional definition of "architecture" as expert-designed buildings, the buildings of the majority of the world population appear unworthy of serious analysis. The weakness of this position has been excellently described by Paul Oliver in the introductory chapter to his anthology "Shelter and Society" (1969). In contrast to expert-designed architecture, expressing monumentality and conscious aesthetic objectives, Oliver defines what he calls "primitive" and "vernacular" architecture, which are here jointly referred to as "popular" architecture. This thesis accepts and uses Oliver's definitions of "primitive" and "vernacular", which coincide well with those of Rapoport (see section 5.4).

Even if building functional studies of popular architecture would not result in immediate improvements for its inhabitants (which they could, of course), such studies might be valuable for the development of theories which could be successfully applied when studying architect-designed buildings. This argument

is supported by Oliver, who states:

"As the anthropologist may often reveal patterns of behaviour in our own society which go unnoticed precisely because they are so familiar but become apparent when exposed to another and alien culture, so the study of vernacular architecture can reveal either directly, or by analogy, some of the responses which the occupants may have to the buildings erected by architects. They may illuminate aspects of our own reactions to buildings within our culture but, more important, as the spread of Western technology and architectural forms increases, those of other peoples." (Oliver 1969:26f)

Douglas Fraser's book "Village Planning in the Primitive World" (1968) is an example of how the study of primitive architecture can result in conclusions of general theoretical interest. Examining the village settlement pattern in eight cultures by the use of the structural-functional method developed by Claude Lévi-Strauss, Fraser thinks he can trace "a correlation between the level of economic development and the complexity of planning schemes evolved" (p 47).

Another example is "House Form and Culture" (1969) by Amos Rapoport, who presents a strong case for the study of human requirements of popular architecture. When analysing the factors determining house form in primitive and vernacular architecture he rejects a series of simplistic explanations about one single determinant and concludes that

"house form is not simply the result of physical forces or any single causal factor, but is the consequence of a whole range of socio-cultural factors seen in their broadest terms." (p 47)

Demonstrating that even under conditions of severe constraints of climate, economies, materials, and technology there is always a certain "freedom of choice" concerning house form, Rapoport argues that the socio-cultural factors can operate, and because they can operate they acquire a status of "primacy" (although not one of exclusiveness). Rapoport's examples of socio-cultural factors influencing house form are striking, but these factors require further analysis in order to be properly understood. Since he discusses the socio-cultural factors more or less isolated from the material base of the respective societies, Rapoport's presentation appears to be strongly idealist, but his theory on determinants of house form could still be fruitfully adapted to a materialist analysis by relating the socio-cultural factors to the social formation of the respective societies ("social formation" being

Figure 3:I. House of the Nyakusa people in Tanzania, exhibited at the Village Museum in Dar es Salaam.



the specific combination of various modes of production existing in a given society).

In the African context, when searching for a research tradition relevant to the subject of this thesis, the descriptions of traditional African settlements made by reporting explorers could be expected to provide useful information. Usually such information is not available, however. Of the 433 titles listed in the bibliography "Le Problème de l'Habitat Rural en Afrique Noire" (Verhaegen 1960) quite a few contain technical descriptions of rural houses, but these are seldom related to social and functional aspects of the respective societies. The deplorable situation has been most aptly described by Paul Oliver in the introduction to his anthology "Shelter in Africa" (1971):

"Curiosity, condescension and contempt are to be found in the writings of different traders, voyagers and men of God who, for different reasons, found themselves in contact with African societies. Their own cultural heritage and professional involvements coloured their attitudes and in many instances the conviction that the 'African' was an inferior being meant that only the most superficial descriptions of the building materials and methods of construction were noted. How village organisation or family relationships might be expressed in the physical disposition of the community, or how the use of spaces within and without the buildings might be controlled by social hierarchies or symbolic values were scarcely appreciated, much less examined." (p 8)

Because of their own cultural heritage the colonialists were not only disinterested in African building tradition; they had an interest in preventing research aimed at understanding African architecture from an African point of view. Such research could reveal sophisticated socio-cultural influences upon seemingly simple house forms and thus disturb the myth of the colonialists' civilizing mission in "primitive", "dark" or "barbarous" Africa.

Also in postcolonial Africa there has been surprisingly little interest in building functional analyses of popular architecture. Oliver concludes that there has been "no substantial advance in the study of African shelter types; rather, there had been a regression" (p 11). But also when evaluating the few good studies that exist (for instance, Beguin et al 1952, Brausch et al 1963 and 1964, Schwerdtfeger 1971, Levin 1971 and Bjerhagen & Sävfors 1972) one must keep in mind that these studies are made in societies already deformed by colonialism.

3.2 Colonialism and African urban tradition

Colonial science has tried to make us believe that African societies were undeveloped until Europeans entered the scene. Historians, anthropologists and others employed by the colonial powers have presented stereotype descriptions of rural African "bush" life, indicating that "African peoples south of the Sahara had no urban tradition worthy of the name" (Southall 1971:216, summarizing the attitude of Western scientists). Recent research into the African history has revealed that there existed highly developed African cultures with advanced urban constructions before colonialism deformed, truncated or erased these urban centres (see, for instance, Davidson 1968 and 1973). One of the few non-colonial descriptions of the colonial destruction of African urban centres is given by Aidan Southall in his essay "The Impact of Imperialism upon Urban Development in Africa" (1971). He concludes:

"In central, eastern and southern Africa there is hardly a single case in which a traditional urban settlement survived with sufficient strength to remain a significant element in a contemporary city. The most important African settlements that came in contact with colonial imperialism were, like the capitals of the Kongo and the Monomotapa, sub-

jected to conditions that led to their disintegration and decline." (p. 235)

Instead new urban centres were built by the colonialists. According to T. Blair (1971) the colonial cities were

"self contained enclaves which skimmed off the cream of human and material resources from the countryside and oriented the bulk of its economic activity abroad". (p 228) --- "The colonial city was not a civic entity. It was not created to meet the needs of new urban dwellers and little provision was made for their social and cultural requirements. It was merely an administrative area built up and run by Europeans and incidentally inhabited by Africans." (p 229)

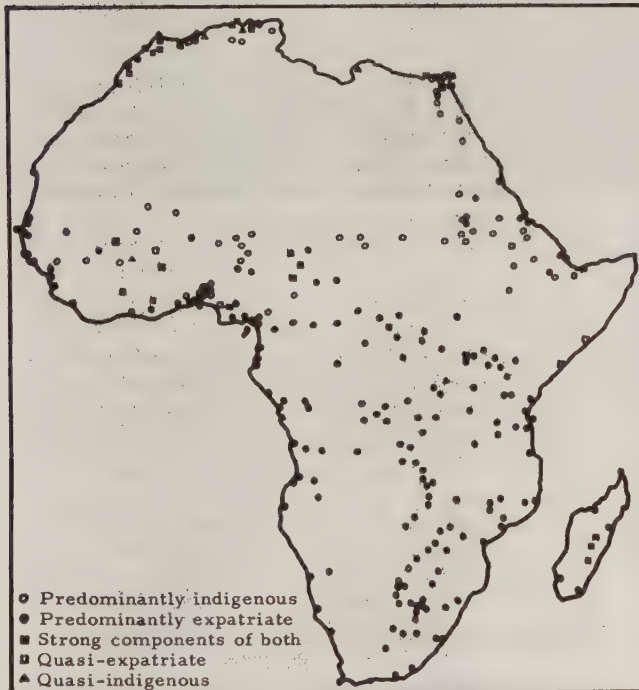


Figure 3:II. Urban centres in Africa according to Hance (1970:246). Note that in Africa south of the Sahara there is a domination of "black dots", i.e. colonially initiated cities.

The extent of foreign influence upon the form of 275 selected African cities has been shown by W.A. Hance (1970:246). According to his classification indigenous cities in Africa south of the Sahara exist only in parts of Ethiopia, Botswana and at a few spots in West Africa, (figure 3:II).

An example of an old African city that has been deformed and engulfed by colonial development is that of the capital of the Buganda kingdom in today's Uganda. Although a new capital (Kampala) was built around the pre-industrial African urban centre, this was not erased - just deprived of an independent development and thus forced to stagnate. The colonially built city is

"essentially the result of outside intervention, its growth the result of external stimulus and enterprise. The fact that it is not autochthonous, but rather superimposed upon its environment, increases the difference between itself and its surrounding." (Temple p 10).

Unfortunately Temple, in his paper, does not describe the subsequent underdevelopment of the old Buganda capital. This is neither done by colonially employed P.C.W. Gutkind in his book "The Royal Capital of Buganda - A Study of Internal Conflict and External Ambiguity" (1963). Despite the scientific ambitions of this study Gutkind does not even mention the destructive development of the Buganda capital. Instead the whole book deals with the problem of how to gain control of the Buganda kingdom and how to subject its urban development to that the colonial plans.

Of those indigenous sub-Saharan urban centres, of which the physical structures have not been destroyed, the Yoruba cities are the most outstanding. According to Southall

"They were city states, with hereditary rulers, composed of organized wards containing a number of localized kin groups each occupying its own compound. The kin groups corporately owned their urban compound and also their farmland outside the city. --- The southern Yoruba had a grid pattern, the northern Yoruba a radial design, with the king's palace and the great market at the centre. Buildings were not architecturally differentiated except in size. --- The cities were walled and gated and probably contained from twenty to fifty thousand inhabitants, in the case of the larger capitals even in traditional times. They were certainly urban in size and density." (Southall 1971:228f)

The Yoruba cities, being some of the few surviving urban centres, provide an important field of research. In fact, a few penetrating studies have been made; for instance, by P.C. Lloyd (1955), G.J.A. Ojo (1966), A.L. Mabogunje (1967), B. Lloyd (1967), C. Okonjo (1967) and E. Krapf-Askari (1969). These studies show that there are interesting tasks for research into the relationship between social life and dwelling space (see section 5.8).

Despite ample evidence of advanced African urban development, colonial planners and researchers have maintained that Europeans brought urban development to Africa. At an international congress on "Housing in Tropical Climates" (Housing 1952) it was stated, for instance, that "there exist no native town of any size" (p 21). Also prominent scholars fail to rid themselves of a European-oriented outlook. Thus P.C. Lloyd, who has been the co-editor of an interesting anthology on Ibadan (Lloyd et al 1967), insists in judging pre-industrial African urban centres according to the pattern of industrial cities of Europe. He calls the Yoruba cities "Africa's ethnographic anomalies", because to him they are "more resembling the villages of Africa than the urban areas of the modern world" (p 3).

The contempt for traditional African architecture shown by colonial researchers, does not mean that no research was carried out on African housing. Such research was undertaken, but with colonial objectives (see, for instance, O'Barr et al 1973:5f). This became increasingly necessary as colonial develop-

Figure 3:III. Old mine-workers' houses at Kitwe in the Copper Belt, Zambia. There are no windows and only earth floors.



ment forced large groups of Africans to settle permanently in the colonially planned cities. Housing research was especially developed in the most urbanized parts of Africa. The repressive function of colonial housing and housing research is most clearly revealed in the case of South Africa (see, for instance, Bettison 1953 and Calderwood 1955). But also in other African colonies studies of African response to colonial physical planning had important political and practical objectives. These objectives were evident as late as 1959, when the Scientific Council for Africa South of the Sahara held an Inter-African Conference on Housing and Urbanisation in Nairobi. In the report from the conference (Housing 1959) it was bluntly stated:

"The conference NOTED that, throughout Africa, householders increasingly favoured European-type house designs; they had to adjust their mode of life to them, and were in fact doing so. Consultation with householders should take place even though the value of their advice was apt to be limited by their lack of experience of new designs and their costs." (p 64)

Considering that "mass production of housing for the lower income groups is necessary" (p 26) at the same time as "expenditure, both in rural areas and urban centres, should provide rich return..." (p 36), one can easily understand why the "advice" of the Africans "was

apt to be limited". Considering, furthermore, that Africans were usually forced to seek employment in towns in order to pay taxes introduced by the colonialists (Bjerén 1971:9), and that the wages were usually below subsistence level, one can easily understand why the colonial planners thought that "the migrant worker may just want a place to sleep and to keep his possessions" (p 37). Nevertheless housing research was needed in order to study how "householders adjust themselves to the housing provided for them" (p 38). If this was not done, "social disorganisation" (p 38) might occur, which in turn might promote "civil disturbances" (p 212).

The mining companies in South and Central Africa set the pattern for future development by starting to build minimum-standard housing estates for African workers (figure 3:III). This housing policy "resulted in labour camps in which the inhabitants were neighbours by virtue of their common employment rather than by other criteria of association" (La Fontaine 1970:5). It also enabled easy control by the colonialists of the urban African population, which, especially after the second world war, began to be politically active against colonial domination. The colonial transformation of the traditional modes of production in the countryside and the increased demand for African labour produced such a rapid influx of people to the towns that the situation threatened to slip out

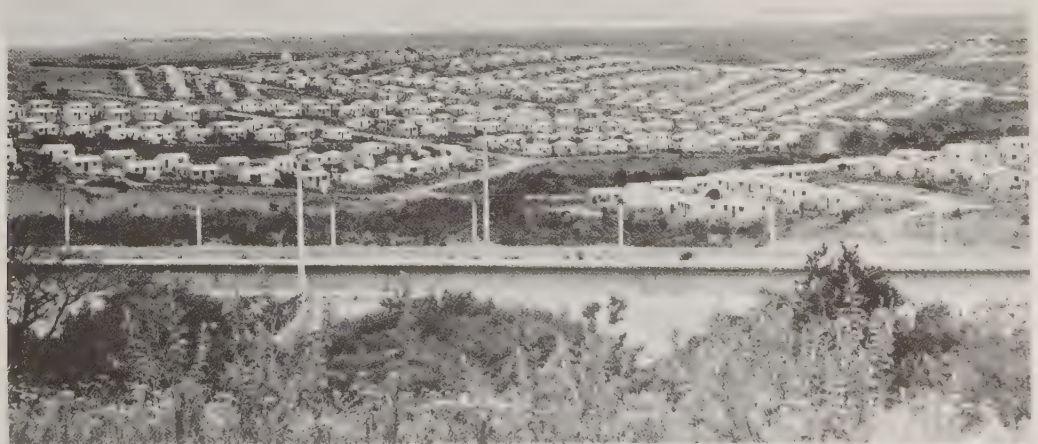


Figure 3:IV. Housing area for African workers in Port Elisabeth, South Africa.

of the hands of the colonial administration. From the Belgian Congo La Fontaine reports:

"With the continued demand for the Congo's raw materials after the end of the war the upward trend continued, with an estimated increase of 30 000 immigrants a year. The problems of overcrowding and hygiene became so pressing that the Belgian administration was forced to take action. In 1952 an organisation... was set up to provide cheap and attractive urban accommodation. Several estates were built with varying types of housing, designed to provide for different economic classes. The houses, though of several types, were of a standardised pattern and were either rented or sold on an instalment plan." (p 12)

Thus the mining companies and the colonial administrations established the pattern of housing to which the African urban population was to be adjusted. Or, as one participant in the 1959 housing conference put it: "in consequence, African attitudes are created by, and are directed towards, an environment made largely by the decision of non-Africans" (Housing 1959:213).

3.3 Housing for "decolonisation"

Not all housing estates were planned for African workers or servants living at or below subsistence level. Some were designed for the small but growing group of educated Africans, allowed to enter the lower ranks of the colonial administration. As the nationalist movement began to spread and offer more effective resistance, it became increasingly important for the colonialists to control the situation. They tried to do this by promoting the establishment of a relatively wealthy African middle class:

"The explicit aim of the administration in the post-war years was to create a prosperous petite bourgeoisie, striving for the standard of Belgian culture. Such (few) Congolese as attained Belgian standards were to be awarded Belgian legal status. Polygyny was made illegal, family allowances and housing were geared to the nuclear family, rather than the wider kinship cluster." (La Fontaine 1970:5)

The rapid growth of the African urban population became a problem for the colonial administration, because "crime is made easier, and its prevention, detection and punishment more difficult" (Southall & Gutkind 1957:211). As the "formal mechanisms of detectives, police and prisons imposed from above cannot of themselves be adequate" (Southall & Gutkind 1957:211) "social control" within the African community had to be promoted. One way of doing this was to build an alliance with "the more skilled, better educated, higher paid", because:

"It is a group which contains the seeds of a future middle class, whose interests centre more on personal security and adequate provision of social services for themselves and their families than on

current political issues". (Southall & Gutkind 1957:17)

In order to assess the problems of "law and order" the colonial powers initiated a series of social surveys in African urban areas. Some American Africanists writing about "History and Conduct of Survey Research in Africa" (O'Barr et al 1973) indirectly confirm this by presenting "the political and social upheaval that seized Africa in the 1950's" as a cause of "the explosion in Africa of social research" (p 10). However, by just saying that "the potential for revolutionary change... drew a large number of observers to Africa" (p 10) one gets the impression that these researchers came to Africa purely out of scientific interest without any control by the colonial powers. This is, of course, a false impression.

The extent of the colonial interest in the consequences of African urbanisation is indicated in the bibliography "L'Urbanisation de l'Afrique Noire" (Verhaegen 1962), which contains not less than 2 531 titles. At the invitation of the French government and in collaboration with UNESCO, The International African Institute in London, and the Commission of Technical Co-operation in Africa South of the Sahara, a special conference on the subject of "Social Implications of Industrialization and Urbanization in Africa South of the Sahara" was held in 1954. At this conference, which resulted in a 744 page report, (UNESCO 1956) common research strategies, methods of investigation and results of terminated studies were presented and discussed. That the role of housing and physical planning was considered important is shown in the reports from the studies of Sekondi-Takoradi, Johannesburg and Stanleyville. The same thing is also shown by the fact that the UN published a bibliography on Housing in the Tropics (UN 1952), containing 428 titles.

The colonial objective of African housing and housing research is stated explicitly in many reports from the 50's and the early 60's, for instance, in that of the East Africa Royal Commission 1953-1955.

"The first step in the formation of a healthy urban society is the growth of a settled urban population whose loyalties are directed towards their town (a colonial creation, DUV) rather than to their areas of origin. --- Every effort must... be made to create conditions which are favourable to it, and in the ensuing sections of this chapter measures regarding land tenure, housing and administration are discussed with this end in view." (East Africa 1955:214)

In the case of Tanganyika the recommendations by the Royal Commission were elaborated for direct implementation by the colonial administration. In a report, called "Detribalization" (Molohan 1959), activities in the field of urban housing were outlined, thus influencing, as we shall see, house form for the African city dwellers.

The existence of a Europeanized African middle class in most African colonies meant that, as nationalist resistance threatened to break up the whole colonial system, there was someone to hand over independence to without

risking colonial economic interests. That this kind of "decolonisation" required certain measures also in the field of physical planning was clearly seen by the East Africa Royal Commission. It reported that

"There is a need... to create the conditions in which all races can settle in the towns on an equal footing and with equal opportunities for taking part in the life of the urban community." (p 201)

The statement should not be interpreted thus that economic privileges were to be abolished, but it meant that policy-making should not be exclusively in the hands of the European colonialists. Contrary to previous colonial housing policy makers the Royal Commission was of the opinion that "houses must meet the social needs of Africans if they are to regard them as their homes" (p 212), and recommended, therefore, that African home ownership should be promoted.

Upon gaining formal political independence the formerly colonized peoples thought that a great deal would change - also in the field of housing. But the colonial administration was taken over by those very groups of Africans who were most favourably disposed towards the colonial policy. They were trained in colonial planning policy and most of them lived, like the colonialists, with their nuclear families in European-designed one-family houses (figure 3:VI). When the colonial administrators withdrew, the new rulers were left to carry on the old policy - with smaller resources. Instead of solving the problems created by the colonialist housing policy, the new rulers were faced with an aggravation of the old problems, as well as the addition of new problems.

3.4 Low-cost housing and pirate towns

Because the colonial transformation of the traditional modes of production had gone so far that the international money economy had penetrated into most parts of Africa and made people dependent on cash income, the search for urban

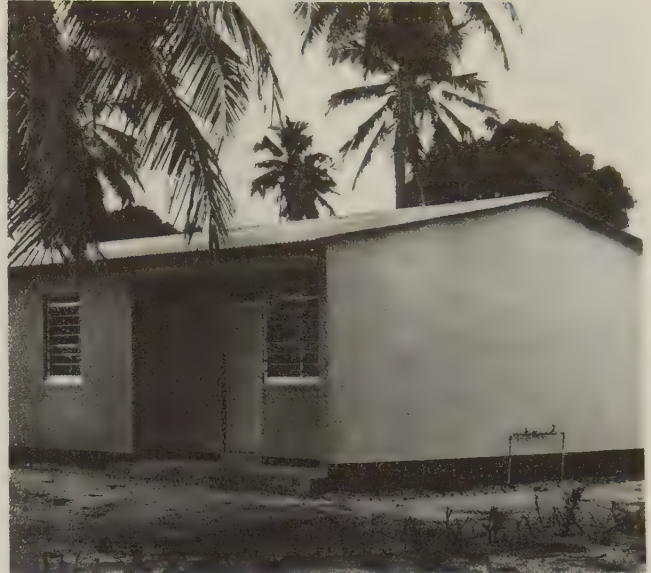


Figure 3:V. "Low-cost" house made as an experiment at Kumasi, Ghana.

employment continued after formal independence (Bjerén 1971). Furthermore - since in most cases it was impossible to retain the strict control of African migration into towns, as practised by the colonialists, city growth often increased rather than decreased with independence (UN 1968a:41, Andrew et al 1973:16f).

At the beginning of the 60's it was widely believed that the newly established African governments would be able to provide housing for the growing urban masses. But the inherited colonial economy did not contain a building industry, and the continued economic dependency meant that no investments were made in this sector (ECA 1965:5). The Europeanized African rulers usually maintained, at least officially, that public mass housing should be started in order to cater for the needs of the poorer urban dwellers, but the economic priorities were mostly given to other fields, like import of consumer goods and investments in tourism.



Figure 3:VI. Subsidized "low-cost" houses for the already wealthy at Suru-Lere, Lagos.

Both foreign experts and African politicians thought that the solution to the problem would be found in "low-cost housing" (see, for instance, Atkinson 1960). Experience has shown, however, that even if houses are built at a very low minimum standard (water, electricity, room and kitchen in "permanent" materials, see figure 3:V) the economic house rent is too high for the urban poor:

"The great impasse of so called low-cost housing, then, in most countries south of the Sahara, ultimately results from these houses being too expensive for the people for whom they are theoretically designed. Conversely, they often carry too little status for those who could afford them." (Nerfin 1965:548) - Thus, "between the limits set by the profitability of the buildings and the solvency of the occupants, the few thousand houses built throughout Africa are in the end occupied by the privileged minority in each country." (Durand 1963, quoted from Nerfin 1965:548)

The result of increasing rural-urban migration coupled with decreasing resources for housing could take only one form: the poor urban masses were forced to use their own hands and imagination to provide accommodation for themselves (see, for instance, Stambouli 1972). They occupied any land available and used the traditional house building skills, which they had acquired in their (rural) area of origin. Unauthorized housing areas ("shanty towns", "bidonvilles" etc), which had appeared already under colonial rule (see, for instance, Raymakers 1963), started to expand at a tremendous speed. These spontaneously developed areas are often not slums in the sense that

they are deteriorating socially and physically (Stokes 1962, Turner 1968:108f). Instead they can be seen as, perhaps desperate, but nevertheless brave creations by people who defy the conditions imposed upon them (figure 3:VII).

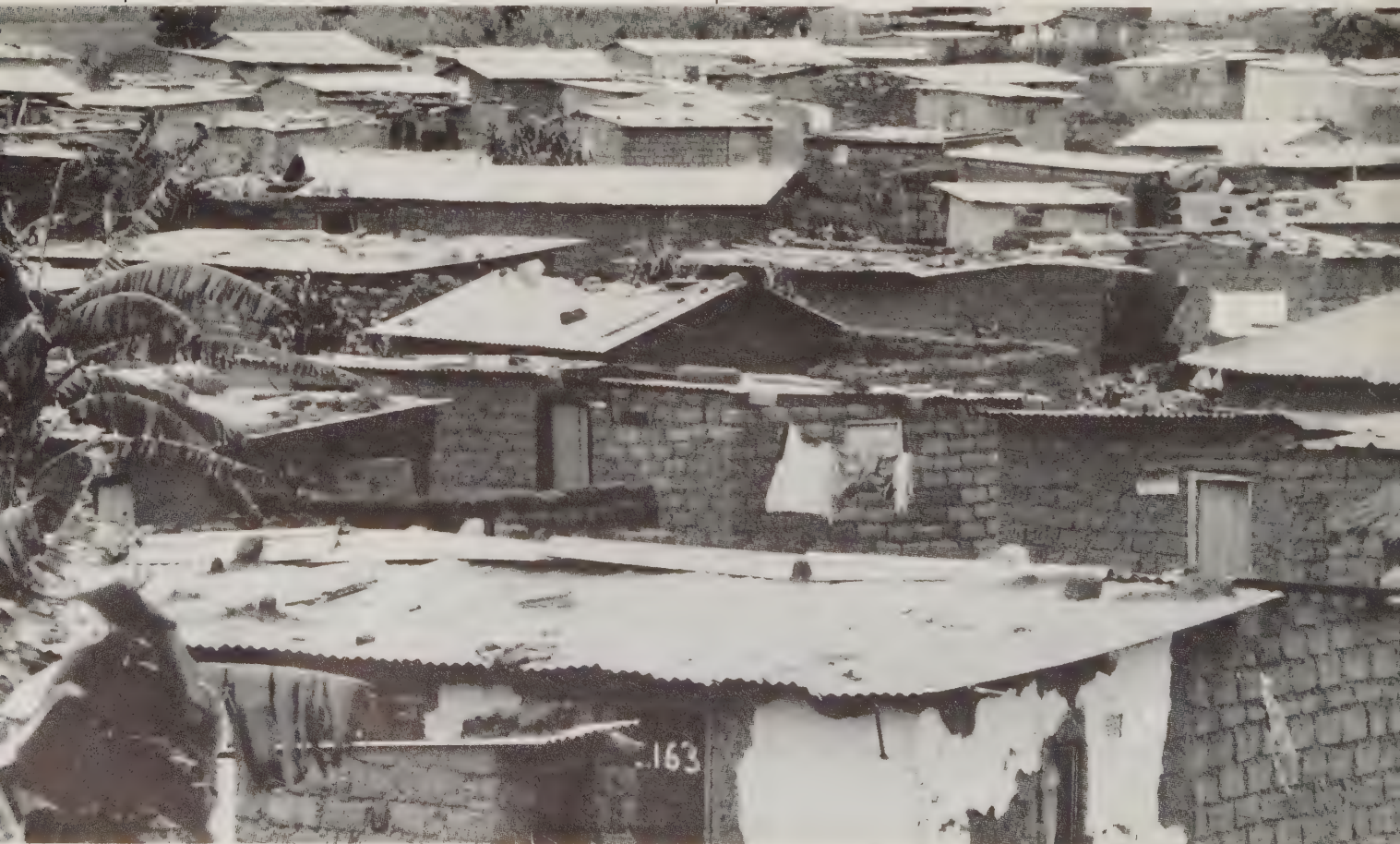
These areas do not usually lack architectural and human qualities. Some observers familiar with unauthorized settlements of the Maghreb have stated that they

"found a wonderful sense of proportion and an unconscious but a very active and living feeling for refinement in the midst of an extreme poverty. The people enjoy magnificent colors and delicate colors. They like to have a hole in the wall in the right place to have a view of a tree or the sea. They plant a fragrant jasmine or a fig tree on their very small piece of earth. Under terrible conditions of living these men own a kind of richness." (Emery 1963:270)

Of course, the constant disillusionment among the under- and unemployed always threatens to turn into self-destruction, but usually the unauthorized urban settlements reveal a spirit of what one could call "constructive piracy". The people erect their houses on someone else's land well aware that it is illegal, and they defend their self-assumed rights. In front of the authorities they stick together. In some places they are even well organized, constituting an important political factor (Mangin & Turner 1969).

Today the "pirate towns" contain half or more of the population of many cities in Africa, Asia and Latin America. People in these areas usually lack water supply, electricity, roads and other kinds of public service facilities (see, for instance, Zelter & Witola 1967:7f). The sanitary standard is often alarming. Demands are put forward that the authorities should not only recognize the existence of the

Figure 3:VII. View of a pirate town in Lusaka, Zambia. Walls are made of sun-dried mud and roofing of corrugated metal sheets.



pirate towns, but also that basic services should be provided. Thus the African élite, created by the colonialists to prevent civil disturbances", now find themselves in the same situation as did previously the colonialists.

The worries of African governments about "uncontrolled" settlements are shared by international experts in the West. A striking feature in the publications of some of these scholars is the fear that the impoverished urban masses will reject "the Western model of modernisation". For instance, in the anthology "The City in Modern Africa" (Miner 1967) Professor Lerner of MIT asks "what protection is there for decent folk against those displaced persons" (p 25) who "form the hard core of the 'revolution of rising frustrations'" (p 28). Charles Abrams in his book "Man's Struggle for Shelter in an Urbanizing World" (1964) devotes a full chapter to the problem of "Communism, Lebensraum, Housing and Cities". He says that "there is no more fertile ground for revolutionary propaganda than the beleaguered cities of the underdeveloped nations" (p 287), and concludes that "the failure to settle the problems of land distribution and housing in the world's cities... threatens world stability" (p 296). M. Juppenthalz (1970) says that the "squatter phenomenon" is "as virulent, as insidious, as malignant as the plague" (p 1) and O.J. Golger (1972) claims that "we are confronted with a worldwide urban crisis which is threatening the foundation of modern society" (p 7).

The fear of the urban poor is shared by the UN:

"Unless positive planning measures are taken this rapid rate of urban growth is likely to aggravate present urban poverty and pathology, expand the bidonvilles, slums and shantytowns, and lead to considerable discontent and unrest." (UN 1968a:39)

With the objective to search measures to solve the problem of the pirate towns, representatives of governments in Africa, Asia and Latin America met in 1970 under the auspices of the UN Dept. of Economic and Social Affairs in order to discuss "Improvement of Slums and Uncontrolled Settlements" (UN 1971). The otherwise common attitude that the pirate towns were entirely negative and should be eliminated altogether was not expressed at this seminar. Instead the seminar "recognized that in the majority of uncontrolled settlements... there existed a series of positive factors" (p 3). Among other things it was recommended that land should be "acquired by public authorities to legalize invasions" (p 7), that the people living in these areas should be allowed to participate in the improvement of their own conditions, and that "government funds which are currently being applied to financing housing of all types, especially for high-income families" should be redistributed and directed "primarily to housing for middle- and low-income groups" (p 8).

There is no indication, however, that the high-income families will drop their privileges freely. And concerning the recognition and improvement of pirate towns there is, at least among African administrators, a strong resis-

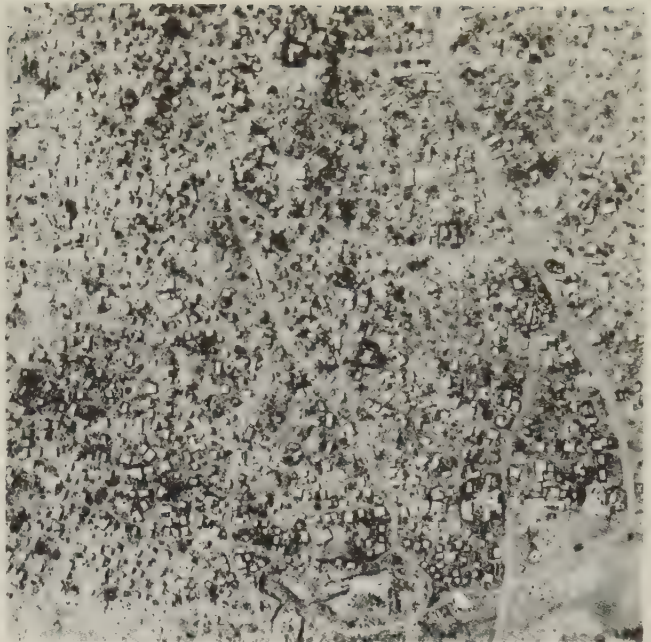


Figure 3:VIII. Aerial photo of a pirate town in Lusaka, Zambia. Note that many houses still lack roofs, that almost all buildings have square forms and that they are homogeneously distributed over the area.

tance to such ideas. The attitude of the Town Engineer of Mombasa is probably typical:

"They shall live in nice stone houses with proper windows, and only one family in each house. The Africans must not live in hovels, like they did in colonial times. They must be respected as human beings and have decent houses." (Kenya 1971: 144, retranslated from a quotation in Danish)

As long as resources to implement this idyllic objective are lacking the result is continued growth of the unauthorized urban settlements. There is no reason whatsoever for believing that the measures recommended by the UN seminar will be implemented unless the inhabitants of the pirate towns constitute such a strong political force that they can threaten the authorities to make concessions of this kind. Discussing motives behind housing, a physical planning advisor to the British Ministry of Overseas Development admitted this by writing that "humanitarian reasons are likely to receive least consideration" while "the motive which is most likely to result in action being taken in housing fields is the political one" (Franklin 1968).

3.5 Building research for the urban poor

Above I have discussed, in a historical perspective, the imperialist influence upon housing and urban development, mainly in Africa. I have tried to show that the existing housing policy has been determined by the needs of foreign forces and that research into the social effects of this kind of housing has been strongly limited by the colonial and neo-colonial objectives of the executed research projects. What, then, is the scope for building research unhampered by these factors?

Referring to the tasks of "young African architects/planners, on whose shoulders much of the future of housing will depend", T. Blair (1971) hopes that

"they should also be ready to defend the people, the nation and themselves against neo-colonialist ideologies and practices on all levels. --- Architects and planners must free themselves from servile adherence to dirigiste policies of governments, international consortia and industry. Plans must evolve from the conscious will of the people, and be based on shared participation and involvement at all levels." (p 238)

What kind of building research could be carried out with this noble aim in mind? In an article called "Mass Housing: Social Research and Design" Brolin & Zeisel (1969) suggest that

"The social parameters of housing are as important as the legal, economic, and physical. The architect and planner need detailed information about the living patterns of people who are of different cultures or subcultures. This information about the functional requirements of urban subcultures... can be provided by analyzing the latent social structure and living patterns as they relate to the architectural environment." (p 51)

This general statement is made when presenting a study in Boston, but is it also relevant to housing research in underdeveloped countries? One negative reply is made by G.H. Franklin with experience from "overseas" housing and planning within the British Commonwealth. He writes that

"minimum space standards, i.e. only one or two rooms, do not allow any great variation either in plan or in behaviour patterns. The design of minimum low-cost housing units within a realistic housing programme is principally a technical, not a sociological problem". (Franklin 1968)

In contrast to this attitude the UN seminar on improvement of slums and uncontrolled settlements (UN 1971) stated that

"there is need for experimental housing programmes and research into the social aspects of housing and the living habits of people. Such projects would help to use resources properly, avoid financial waste, provide training programmes, promote more appropriate designs for human shelter and provide guidelines for investment in housing development." (p 10)

Franklin argues that, as economic necessity allows only one or two rooms, people will have to adapt accordingly. Research into family structure and functional requirements is considered useless as these demands will have to

be satisfied within the framework of the available one or two rooms anyway.

But physical planning does not only imply dimensioning private rooms; it also implies constructing windows and doors, arranging service facilities, providing for communal and outdoor spaces, etc. Furthermore, it implies providing seemingly unimportant interior and exterior details for the functional use of space. Also when resources are scarce there are innumerable ways of organising dwelling spaces.

Planning for the urban poor should also mean that the planner has a sensitive ear to people's aspirations, for instance by leaving part of the construction to the occupant. As Franklin advocates architect-designed minimum standard low-cost housing he is not interested in studies into the problem of how people could provide housing for themselves. Certainly social aspects will influence the arrangement of space in housing areas as soon as people are allowed to participate actively in the creation of their physical environment.

Building research should have practical implications for building design, but research can not be seen isolated from the society in which it is conducted. Therefore building research could also result in actions of political, juridical and administrative nature, which might improve housing conditions even if physical structures are not changed. Furthermore, each individual research project could not be expected to lead to direct actions. Some must necessarily be of an exploratory and theoretical character.

A "pragmatic" building researcher would probably say that studies of house form in pirate towns are useless as they will not influence house construction. The few existing studies of pirate towns show, however, that there is scope for studying human requirements of spatial organisation in these areas. Some such studies are those by Mangin (1967), Lundgren & Schlyter (1969), Etherton et al (1971) and Andrew et al (1973). Studies like these may also contribute to an understanding of the relationship between spatial organisation and human behaviour in different social and cultural environments and thus facilitate the development of theories of general interest. This is shown by Turner (1966a and 1968), Martin (1969), Brett (1972) and Stambouli (1972).

Some of these studies also show that new insights can be gained by abandoning the colonial tradition of research. Although this thesis does not deal specifically with pirate towns, some of my basic assumptions are influenced by the study of these types of settlements. I also think that my principal discussion of the urban Swahili type house to a larger extent is relevant to houses in proper pirate towns.

4 Three house types in Dar es Salaam

—a background analysis

In the preceding chapter housing policies and the tradition of housing research in Africa were outlined, partly in order to assess, in general terms, the relevance of and scope for building functional studies in the African context. In this chapter an attempt is made to trace the social, political and other factors determining house form in East Africa, particularly with reference to three distinct house types in Dar es Salaam.

4.1 The Swahili urban tradition

Long before the arrival of European colonialists urban centres were established along the East African coast (figure 4:1). They were probably founded by Arab and Persian traders, but the emerging culture also absorbed important elements from the local African societies (Lewis 1966:11, Davidson 1969:91 & 133). The settlers were integrated with the Africans to such a high degree that an independent coastal society appeared:

"By the middle of the thirteenth century all the seacoast was becoming wellpeopled with villages and ports of the Swahili, a mixture by this time of Arab, African, Persian, Indian and possible Indonesian elements, in which African predominated. --- The growth of new Swahili urban political organisations was paralleled by the establishment of new ports and villages, centred in most cases on the nucleus of a mosque, adjoining which was usually an open area reserved for graves. Around this the stone or rough timber houses were grouped, often in an apparently unplanned open arrangement at first, with small areas of systematic planning perhaps added later." (Lewcock 1971:81)

According to Garlake (1966:2 & 30) and Schneider (1965:12) foreigners brought the stone building technique to East Africa. It was mainly used in religious and important residential buildings. But as the locally available building materials were different from those available at the place where the building technique originally emerged, modifications in building technique took place.

Besides mud and timber, the most easily available building material along the coast is coral. Because this material is unsuitable for making square blocks, walls were usually made of rubble and mortar, which stimulated the development of lime burning and plastering techniques, as well as the adoption of the local pole wall construction for reinforcement of the coral stone walls (Garlake p 16f). The most important factor determining the Swahili archi-

tectural style is said to be the limited rafter span (less than three metres) made possible by mangrove poles - the only universally available structural timber of the coast (Garlake p 23). This meant on the one hand that a narrow rectangle became the standard room, which could only be monotonously added to one another, and on the other hand that the vaulting technique developed in order to increase spans (mainly for the mosques). Garlake concludes that

"the coastal architecture did draw its inspiration and initial impetus from abroad. But thereafter, it followed its own course, supported by the skills of artisans working and exploiting a single basic material to its limits." (p 116) --- "The resulting style is individual to the coast and homogenous throughout its length." (p 2)

However, this development was disrupted by the arrival of the Portuguese. The Portuguese - who seem to have been less advanced than the Swahili culture in many aspects (but not in military strength) - did not let anything prevent them from expanding their commercial empire. During the 16th century they ruth-

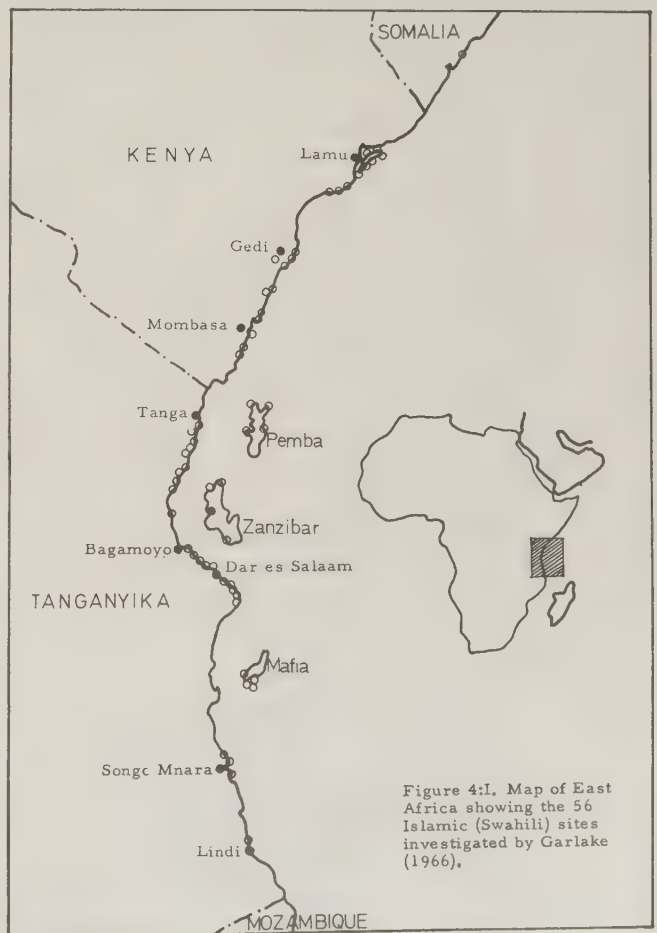


Figure 4:1. Map of East Africa showing the 56 Islamic (Swahili) sites investigated by Garlake (1966).

lessly destroyed many and conquered all of the flourishing cities of East Africa.

Building works continued under the Portuguese but without any positive influence from them (Garlake p 1, Davidson 1969:123f). After the decline of the Portuguese empire in the middle of the 17th century the Swahili cities were once again flourishing civilisations. New factors such as the square mosque plan and upper stories were introduced, otherwise resemblance to the early architecture remained (Garlake p 71, 88 & 107). Zanzibar, Bagamoyo and Mombasa became the most important Swahili centres.

None of the original Swahili cities had more than 50 stone-built houses. The other houses were made of mud and poles. In these the bulk of the population lived. As nothing today remains of these houses, their forms can not be established (Garlake p 90, Kirkman 1964:22). It is possible, however, to study how the early stone houses were spatially arranged as the ruins of these have been subject to archaeological excavations and analyses. A typical house plan is shown in figure 4:II. This plan

"shows a spatial progression from the narrow street through a large-scale doorway into a private courtyard and thence into covered space which became increasingly private and small in scale as one penetrated in depth. --- Later this plan was changed by dividing the private middle room into two, thus making a house of one long room and two private suites, presumably for the owner's two wives." (Lewcock 1971:83 & 84)

According to Kirkman (1964:23) this house type is borrowed from the Arab world. Similarities with houses of the Persian gulf have also been traced (Lewcock 1971:89). Garlake is not completely certain about the origin of the Swahili architecture as a whole (p 113f). He confirms the Islamic influence in the domestic buildings, however, by stating (p 87) that the domestic architecture is not basically different from the religious architecture, and by pointing out (p 88) that the Muslim habit of secluding women has resulted in the high screen walls surrounding the courtyards to be found in every house. He also observes (p 89) that the Swahili stone houses are always oriented towards the north or the east in order to capture the wind and protect against sun radiation. In some of the ruined houses he found traces of a single long room of light construction, which he identifies as a "verandah, providing shelter for many household tasks, including cooking" (p 93). By analysing the spatial organisation of adjoining houses Garlake finds an identity of interests between individual house owners, which he concludes must have sprung from a close degree of kinship (p 90).

Stone houses with a spatial organisation similar to the early Swahili architecture can today be found in some urban centres along the coast. For instance, in the stone houses of Bagamoyo, an example of which is shown in figure 4:III, the repetition of the narrow rectangle is a striking feature, although additional walls and backyard rooms have been constructed in modern times (Karlsson et al 1969). The spatial progression from public to private do-

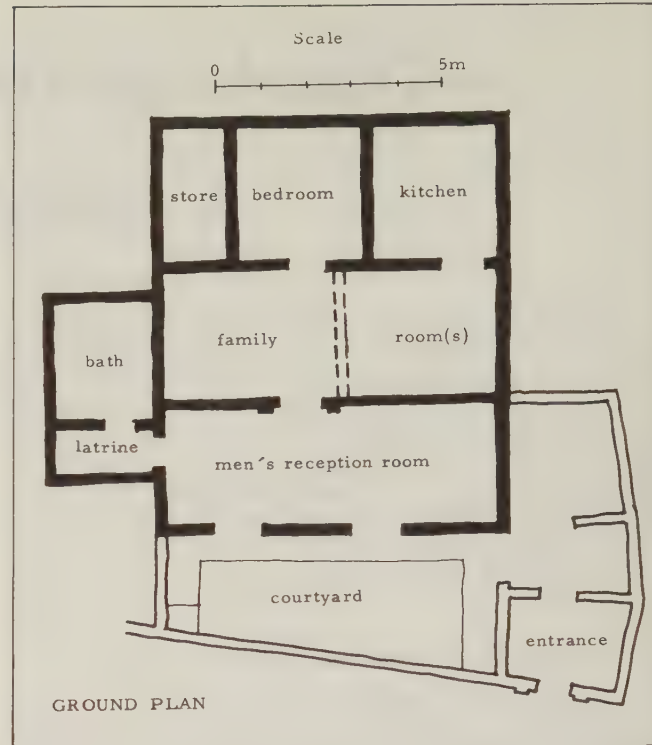
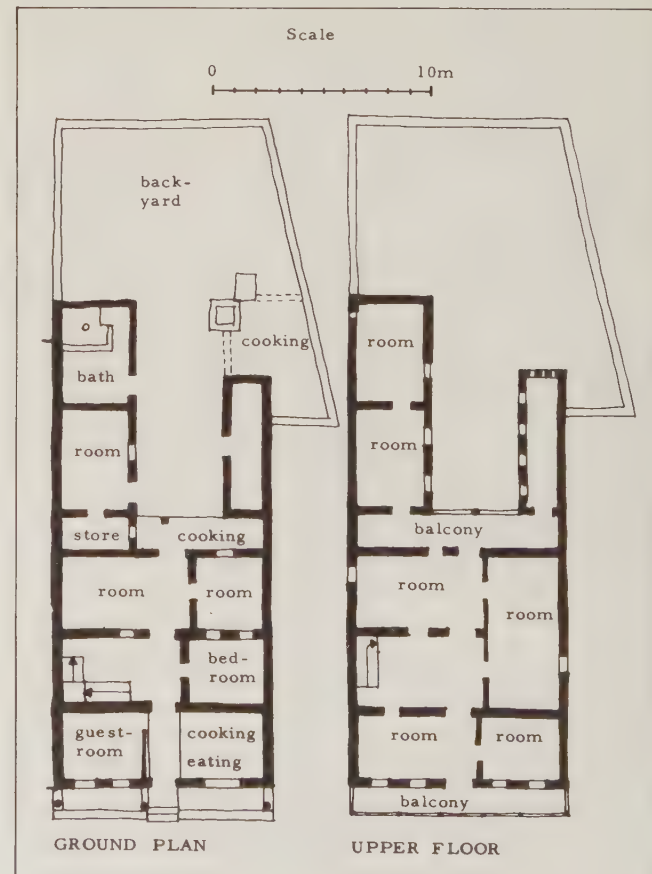


Figure 4:II. Typical Swahili stone house (from Gedi) reconstructed from descriptions by Garlake (1966:fig 76) and Lewcock (1971:86).

Figure 4:III. Two-storeyed stone house from Bagamoyo, probably built at the end of the 19th century, reproduced from Karlsson et al (1969:183).



mains is also striking. Large variations in house forms can be traced, but it is evident that the basic structural principle owes its origin to the Arab/Swahili tradition.

4.2 The traditional mud-and-pole Swahili type house

The urban centres along the East African coast were city-states depending for their existence upon the trade with the Arab world. They also depended on the cooperation of the African population in the hinterland for the supply of labour and agricultural products. Obviously there was a cultural exchange between the city-states and the surrounding rural areas (Schneider p 5f), but it is not known to what extent rural house forms, for instance, were influenced by the Islamic stone buildings. Therefore it is difficult to trace the origin of today's house and settlement types. L.W. Swantz, writing about the Zaramo tribe in Tanzania, indicates that drastic changes have taken place in the past:

"... the Zaramo lived in fortified villages. This amounted to wooden stockades with pointed tops and a wall of entangled thorn bushes which surrounded the village. A village might have anywhere from ten to fifty houses. From about 1880 onward the stockades around villages began to disappear and are no longer seen today. Zaramo houses were described by Burton to be 'beehive' or 'haycock' shape, made of grass; but, he also mentioned that they had rectangular houses. Today, there are no round grass huts, but all are square or rectangular." (Swantz 1965:33)

The fortified villages could probably be explained by the need for protection against outside intruders, slave raiders for instance, but what made the Zaramo replace their round houses with rectangular ones?

Swantz refers to the rectangular house as the "Swahili type house", indicating that it exists not only in Zaramo territory, but all along the coast (Swahili = coast). This observation is supported by Prins (1961:76), who describes a house type which is said to be the most common one from Mozambique in the south to Somalia in the north. The ground plan - although with some variations - is said to consist of a roofed verandah and, covering the whole width of the house: the men's reception room, from which a central corridor leads to a kitchen, with the men's and women's bedrooms opening on to it at both sides.

In the absence of original drawings I have made a sketch plan, based upon the written description of Prins (figure 4:IV). Assuming that this ground plan is correctly reconstructed, it is easy to find similarities with the typical Swahili stone house (figure 4:II). The progression from communal to more private dwelling spaces and the symmetrical layout are evident in both cases. The front courtyard of the stone houses is replaced by the verandah in the Prins version, but the function of this dwelling space is said to be the same. In the stone houses domestic yards were often added, which makes the resemblance even more striking. Prins also mentions a simpler version of the Swahili

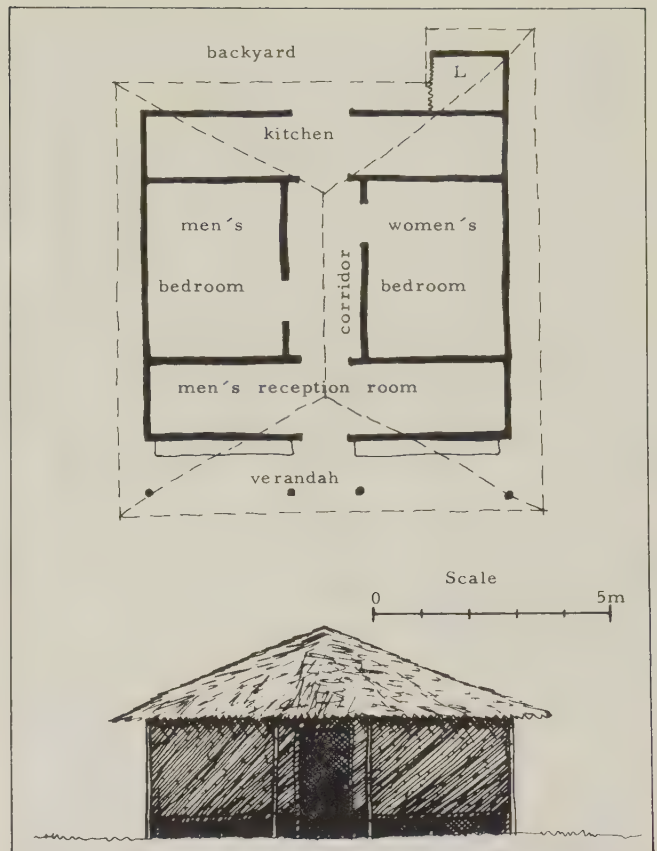
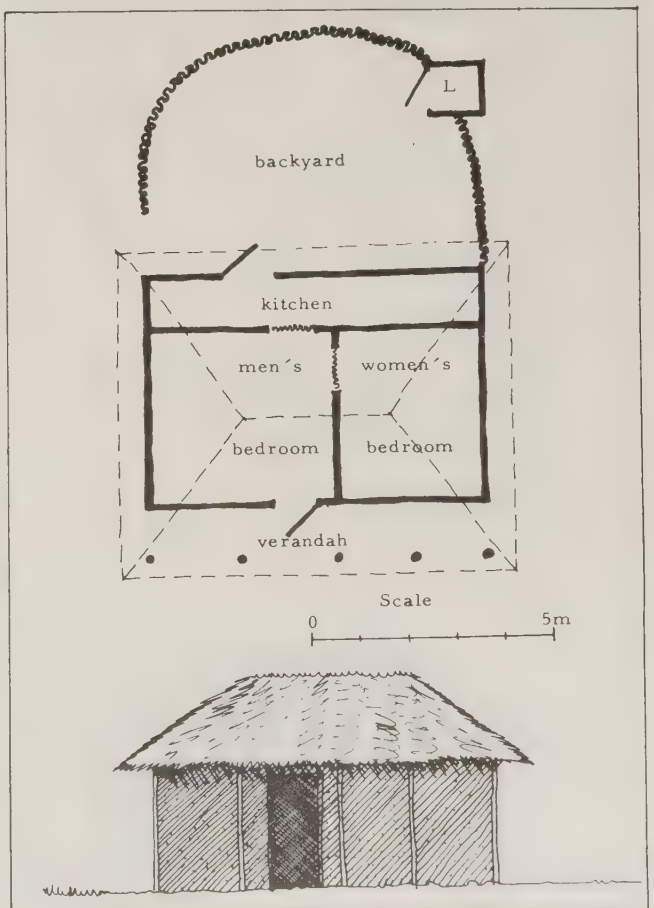


Figure 4:IV. Traditional Swahili type house reconstructed from description by Prins (1961:77).

Figure 4:V. Traditional Swahili type house reconstructed from descriptions by Ingrams (1967:315f) and Prins (1961:77).



type house, in which the corridor is lacking and in which the men's reception room and bedroom are one and the same (figure 4:V). Yet another version is shown in figure 4:VI. The Zaramo house exhibited at the Village Museum in Dar es Salaam (figure 4:VII) is similar in spatial organisation, but an important difference is that household work is located to the front instead of the back of the house.

According to Prins (p 76f) the traditional Swahili type houses are usually made from poles, saplings and mud with thatched roofs (pole construction, see figure 4:XVII). Although he mentions that the northern type is similar in some ways to the stone houses, Prins finds that these are essentially different, both in plan and construction, from the traditional Swahili type house.

This observation by Prins contradicts the widely held opinion that the mud-and-pole Swahili house is of Arab origin. For instance, to Swantz "it seems apparent that the Arab-Swahili influence in (the Zaramo) building has taken place" (1965:33). Comparing the typical ground plan of the Swahili stone house (figure 4:II) to those described by Prins and Ingrams (figures 4:IV and 4:V) such an influence seems probable. The fact that there is a standard mud-and-pole house type covering the same area as the early Swahili stone houses also supports Swantz's assumption. But as the historical development of the respective house types has not been sufficiently documented, it is impossible to draw any definite conclusions about an Arab-Swahili origin. One must ask, for instance, why round houses were common among the Zaramo as late as the 19th century (as noted by Swantz) if the Zaramo houses are influenced by the rectangular stone houses of the Swahili cities, which were established as early as the 14th and 15th century.

As long as there is a lack of more thorough studies concerning the process of influence, it

Figure 4:VI. Traditional Swahili type house reproduced from Berry (1971:127). Elevation reconstructed from other descriptions.

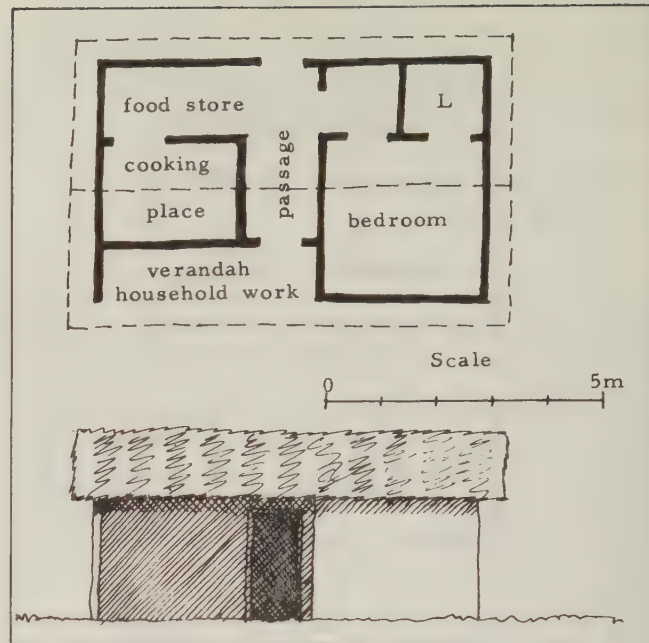
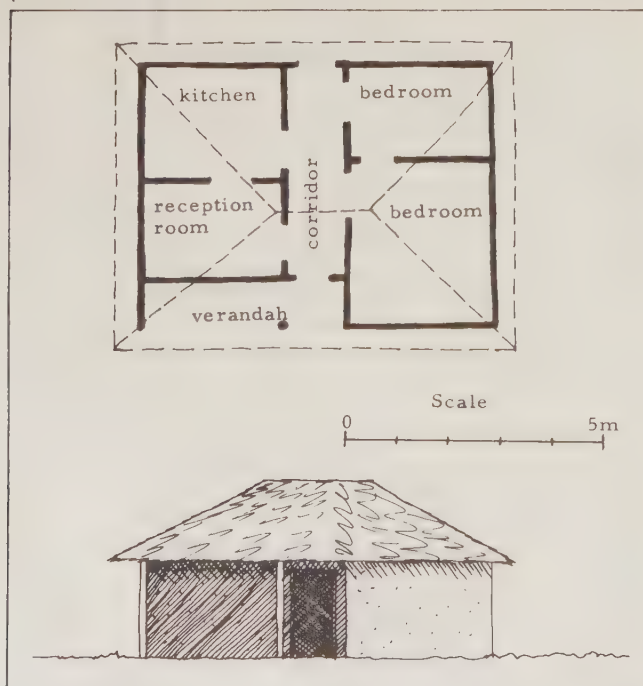
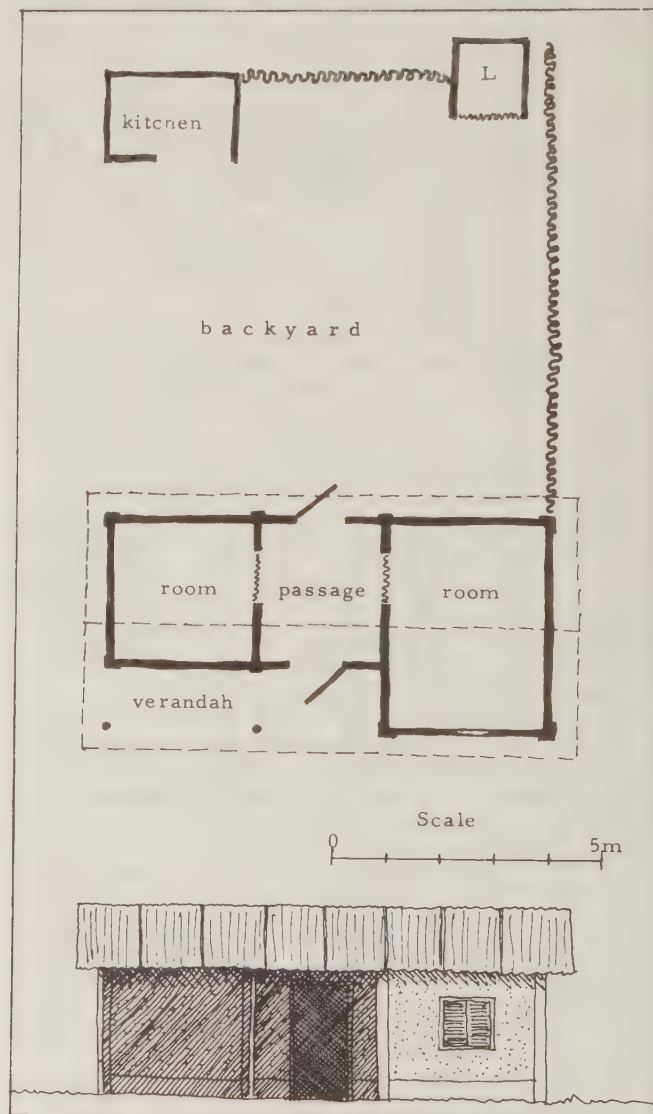


Figure 4:VII. Zaramo house exhibited at the Village Museum, Dar es Salaam, reproduced from Edvardsen & Hegdal (1972:31). Elevation reconstructed from other descriptions.

Figure 4:VIII. Improved traditional Swahili type house in urban area.



seems safer to conclude that the design of the Swahili type houses "probably owed its origin to the earlier Arab courtyard dwelling" (Dyer 1963:29), or that it "may have been borrowed from the earlier Arab courtyard dwelling" (Yahya 1969:26, *italics added*).

4.3 The urban mud-and-pole Swahili type house

Most of those who discuss the Swahili type house make no distinction between the traditional mud-and-pole Swahili type house, as described above, and what is here called the urban mud-and-pole Swahili type house, as described below. However, such an identification can not be made automatically.

There is a general agreement that today's Swahili type house can be spatially defined as a house with a central corridor or passage-way leading from a verandah facing the street, to a back-yard with outbuildings and to private rooms on each side of the corridor. All observers seem to agree that the symmetrical layout is typical for the house type. Yahya (1969:26) mentions that the division into three basic areas - namely the house proper, the courtyard and the outbuildings - is a typical feature of the Swahili type house, but there are exceptions from this rule. For instance, in the case of the Kaloleni area of Mombasa it is reported that "the majority of houses do not have a courtyard, and therefore the pit latrine is inside the house" (Aziz et al 1970:7). An example of this version is shown in figure 4:X.

Concerning the number of private rooms different writers have indicated anything from two rooms upwards. In the case of two rooms, as shown in figure 4:VIII, a resemblance to the traditional Swahili type house shown in figure 4:VI can easily be traced. In Mombasa, Tanga and Bagamoyo the most common number of rooms is four or five as shown in figures 4:IX, 4:X and 4:XI. In Dar es Salaam the urban Swahili type houses usually have six rooms, but often private rooms are added in the backyard so that the total number of rooms may be as many as 12, as shown in figure 4:XII.

Regarding the symmetrical construction around the central corridor or passage-way, open at both ends, as the crucial characteristic of the Swahili type house, all the examples described above could be said to constitute variations of the same basic principle. Applying the additional criteria that household work must be located to the back of the house (following the Islamic pattern) only the Zaramo house shown in figure 4:VII falls outside the definition.

However, even if it is justified to use a single concept when regarding the examples above as a coherent development, there are reasons for distinguishing between a traditional and an urban Swahili type house. If, for instance, one compares the two-roomed unit (figure 4:VIII) to the 12-roomed unit (figure 4:XII), the variations are large enough to motivate the use of two concepts.

Another reason for distinction has been presented by Yahya. He shows that in urban areas the Swahili dwelling has been adapted to modern technological innovations. Plastered walls, ce-

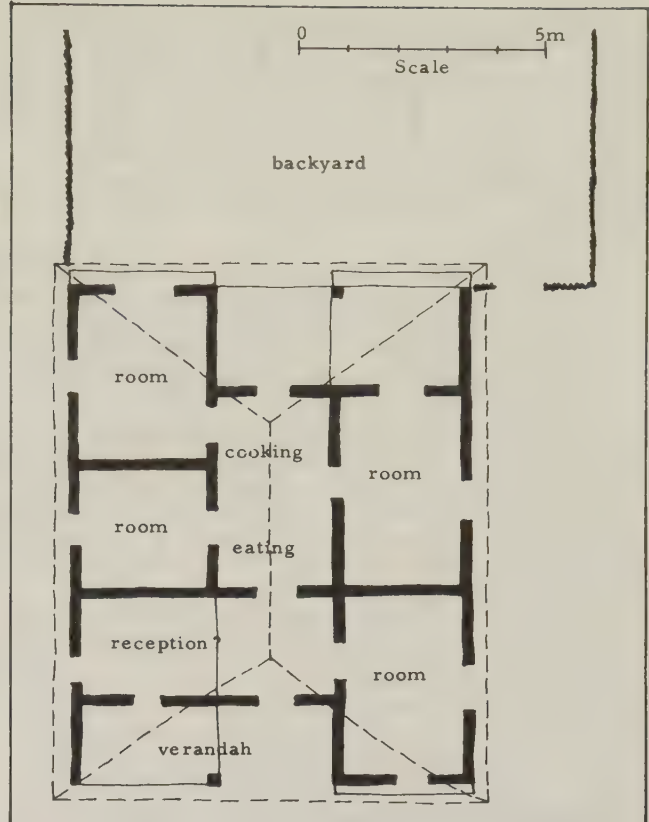
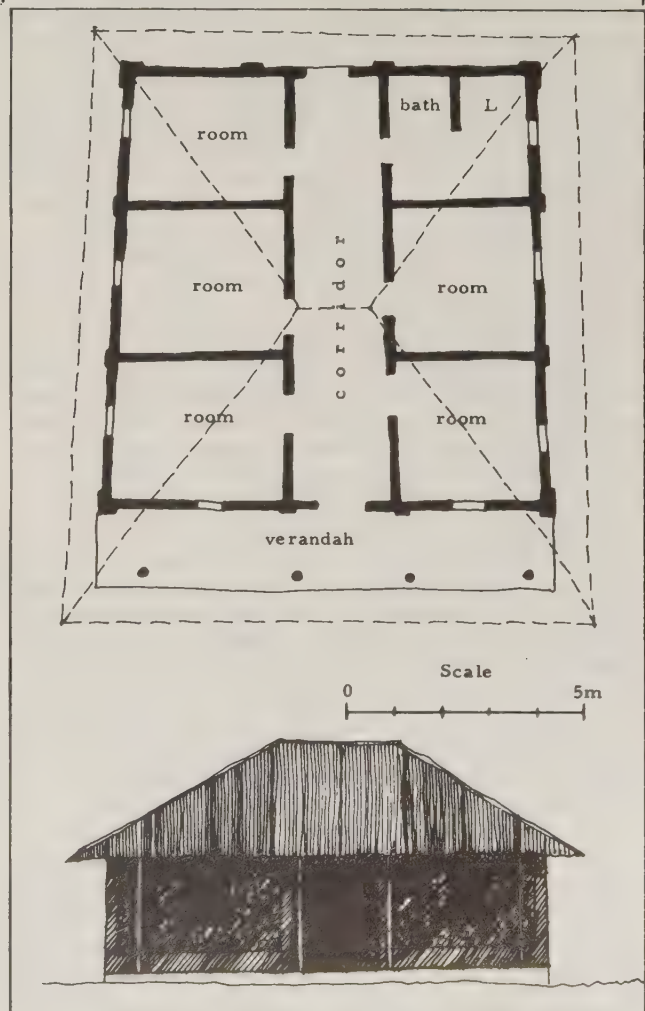


Figure 4:IX. Urban Swahili type house from Bagamoyo (Karlsson et al 1969:98).

Figure 4:X. Urban Swahili type house from Kaloleni, Mombasa (Mugumbya et al 1970:70).



mented floors, hardboard ceilings and plinths around the outside walls have been introduced. Corrugated iron sheets have replaced the traditional palm leaf thatch as roofing material. Windows are larger and provided with insect and burglar-proof netting. Piped water, electric light and modern sanitary fittings have been introduced in certain urban areas. Yahya concludes that

"The advent of new building materials and modern construction techniques has therefore resulted in a new type of dwelling which originates from the (traditional) Swahili house but is at the same time different from it." (p 28)

Although these kinds of improvements are more common in urban houses with many rooms, they may also be found in smaller units in both urban and rural areas. I suggest the modernized two-roomed house shown in figure 4:VIII should be called an improved traditional Swahili type house.

As the variable "improvements" is detached from the variable "spatial organisation", the existence of improvements should not be used to distinguish between various house types. However, a variable which is linked to the spatial organisation of the house is "social composition". The traditional Swahili type house is a dwelling for only one (nuclear or extended) family, while the urban Swahili type house usually contains several households, often one in each room. For the purpose of further analysis, I define, operationally, the urban Swahili type house as being a multi-family unit of at least four rooms. This definition can be upheld even if the traditional type exists in urban areas and vice versa. Still confusion will remain concerning houses of four or more rooms containing only one household (see, for instance, the NHC types LC 10 and LC 11, figure 4:XX), and concerning houses of three or fewer rooms containing more than one household, but such cases are rare.

Several observers have maintained, not only that the urban Swahili type house is of Arab origin, but also that the present system of one household in each room stems from an Arab (meaning Muslim) system of one wife in each room (Swantz 1968:4, Grohs 1968:169). These statements are misleading as long as they are not supplemented with an analysis of the historical evolution of the house type in question. From the excavations of the Swahili stone buildings there is no evidence of a house type similar to today's urban Swahili type house. Nor is there any indication of the existence of such a house type in the Arab world. Schneider states (p 38) that the rectangular house form and certain decorations on walls, doors and windows in the old African houses of Dar es Salaam reveal an Arab influence, but this can not be taken as an indication that the spatial organisation has also been borrowed from the Arab-Swahili stone houses.

An assumption which I find more credible is that the urban Swahili type house has developed from the traditional Swahili type house through an extension of the two-roomed unit as shown in figure 4:XIII. In such a case the Arab-Swahili origin of the former should be traced via the mediatory development of the latter.

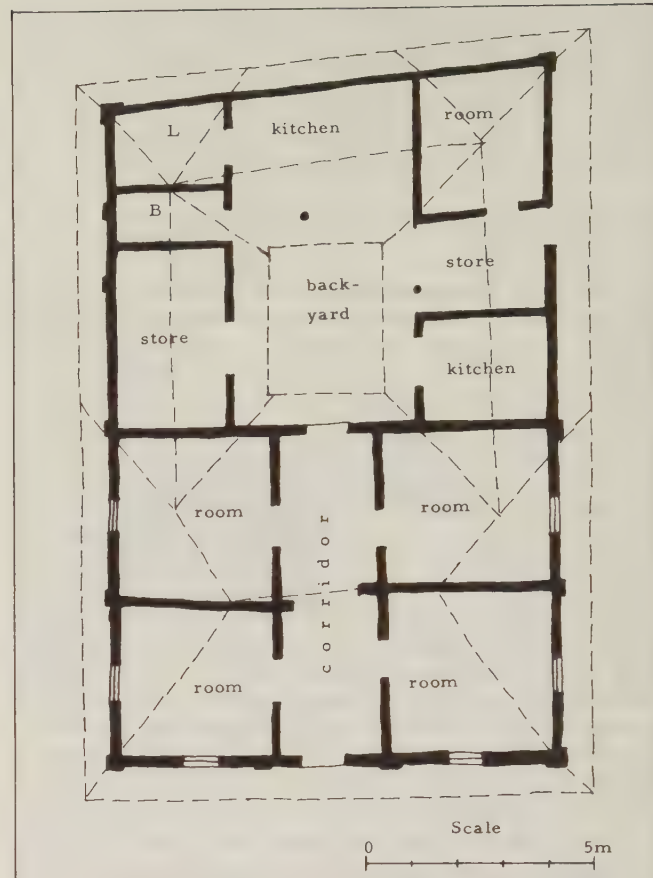


Figure 4:XI. Typical urban Swahili type house in Mombasa (Mugumbya et al 1970:41).

Figure 4:XII. Twelve-roomed urban Swahili type house in Kariakoo, Dar es Salaam (Olenmark & Westerberg 1969:27).



The assumption does not imply that the individual urban Swahili type houses are all the result of extensions of traditional two-roomed units, but that such extensions were made once the pattern for the urban Swahili type house was established.

To be able to assess the relationship between the urban and the traditional Swahili type house it is necessary to study the conditions of urban development in East Africa during the period when the urban Swahili type house emerged. I restrict the discussion to Dar es Salaam in the belief that the basic features are the same in other urban centres along the coast.

4.4 The physical development of Dar es Salaam

Dar es Salaam was not one of the Swahili city-states. It was founded as late as the 1860's. Nevertheless its physical structure could have been influenced by the Swahili building tradition surviving colonial destruction. Garlake notes that

"There are extensive remains of domestic buildings of the late 18th and 19th century along the coast." --- "These ruined domestic buildings grade naturally into the architecture of the old parts of Zanzibari towns such as Zanzibar itself, Bagamoyo, Kilwa Kivinje, the earliest buildings of Mombasa and Dar es Salaam, and many others." (p 107)

According to Sutton (1970:3) the foundation of Dar es Salaam was not the result of slow organic growth, but of a "grand design", initiated by Sultan Seyyid Majid of Zanzibar. Zanzibari traders knew the place around the natural harbour because of the commercial production of copal and foodstuffs by the Zaramo, and Sultan Majid

"envisaged making Dar es Salaam, beneath the walls of his new place, the main caravan terminus, port and commercial centre of East Africa. Doubtless he was imagining an extension of Zanzibar's commercial interest as well as political control into the interior." (Sutton 1970:3f)

Skilled labourers and slaves were brought from Zanzibar for the building projects. Arab enterprisers were encouraged to settle and develop plantations of coconuts. Houses and streets of stones were constructed. But when Sultan Majid died in 1870 the building projects were abandoned. According to European visitors the place was left to decay. In contrast to this observation Sutton notes that a natural and viable economic system developed on the basis of Zaramo commercial interests and, consequently, that the African influence was decisive during Dar es Salaam's formative years (p 5f).

However, the colonial powers were also interested in the place. Sutton indicates that they even collaborated with Sultan Majid in planning the new urban centre (see also de Blij 1963:9). In the 1880's the German East Africa Company took the initiative in order to "use the port of Dar es Salaam as a means towards taking over and exploiting the interior in a more purposeful way" (Sutton p 6). These plans could not be carried out by peaceful means because

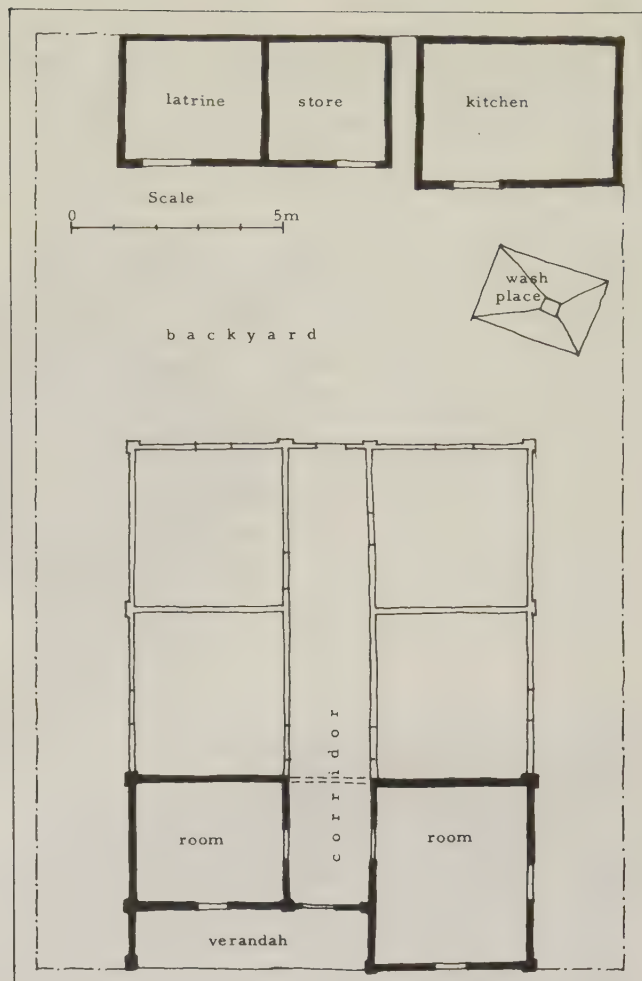


Figure 4:XIII. Possible extension of the traditional Swahili type house into the typical six-roomed urban Swahili type house within the normal plot size of Kariakoo. Roof coverage: 50 per cent.

"the economic alliance that had been forged in the preceding decades between the Zaramo peasantry, the Swahili of the coastal villages and Arabs engaged in trade and planting, were worth defending against the take-over. This armed resistance of 1888-9, misnamed the 'Arab Revolt', involved the whole of the coastal region that the Germans were trying to bring under control. Dar es Salaam was attacked more than once, but probably not badly damaged." (Sutton p 7)

After the resistance had been suppressed the Company's rule was replaced by that of the German government. In 1891 Dar es Salaam was made the seat of the administration of German East Africa, which later became Tanganyika. The German colonialists organised the construction of the railway and the administrative buildings (figure 4:XV) and laid out the rectangular street pattern which gives today's city centre its special character (Schneider p 28f). This development took place at the expense of the Zaramo settlements.

Sutton concludes that Dar es Salaam "can hardly be described as a Muslim city. ... nor is it a Zaramo one" (p 9). By just saying that it has to be seen "firstly as a Tanzanian city" Sutton avoids analysing the interrelationship between the various factors influencing the phy-

Figure 4:XIV. Distribution of the Dar es Salaam population in 1914 by ethnic origin (Schneider 1965).



sical appearance of Dar es Salaam. A reasonable assumption is that the economically and politically dominant force (colonialism) has an ultimate influence upon city form, but that the dominated social groups may continue to let their specific socio-cultural traditions - as modified by the relation of dominance - find expression in house and city form. In the case of Dar es Salaam, with its marked spatial segregation according to race and social class, the division into zones of different types of socio-cultural influence upon physical environment, is particularly obvious (figure 4:XIV). Below, the discussion about determinants of physical form is restricted to the African housing areas.

*

The first African settlements in Dar es Salaam were spontaneously erected working-class suburbs, built around the edge of the colonially planned city. According to Sutton (p 13) some of these settlements developed from Zaramo villages. Even if more and more Africans came from up-country it seems as if the traditional mud-and-pole Swahili house was the most common house type in the first urban African areas.

As we have seen in section 3.3 organic or spontaneous urban development was incompatible with the colonial objective to achieve order and control. But as another colonial objective was to reduce expenditure by avoiding to invest in African housing, the actual town-planning for Africans depended essentially upon the balance of the two objectives, or as Sutton puts it:

"Improving measures from time to time have been mostly belated attempts to relieve a dangerous situation rather than imaginative planning ahead of time." (p 13)

Kariakoo, the first planned African housing area of Dar es Salaam, is an example of a compromise between the two colonial objectives. The area was laid out according to a grid pattern before the first World War by the German colonialists - a plan which was "wholeheartedly endorsed" (Mascarenhas 1966:97) by the Bri-

tish, who took over the administration in 1919. But, while the streets and plots were laid out by the colonialists, the actual construction of houses was left to private African enterprise. This had an important effect upon the physical character of Kariakoo:

"The freedom of choice left to Africans to provide their own housing makes Dar es Salaam radically different, not only from Nairobi and Kampala, but also from other cities in Central and South Africa. The usual fear and belief that choice in building would inevitably lead to shanties and uncontrolled African slums was, if anything, disproved. In Dar es Salaam, in fact, instead of the monotonous, impersonal, and quite often very shabby governmental or municipal housing, one has a whole array of houses: from the most rudimentary shelters to the mud-houses and finally, to the six-roomed stone houses." (Mascarenhas 1966:98, see figure 4:XVI).

However, the variations mainly concerned building materials, the kind of finish given to the facade and styles of verandahs and front doors. The variations in ground plan followed a certain theme: that of the Swahili type house. Obviously the first Kariakoo inhabitants constructed their houses in accordance with the coastal tradition, i.e. with the traditional mud-and-pole Swahili type house (Schneider 1965:IX). It is not known exactly when and with what rapidity the multi-family urban Swahili type house became the predominant house type, but in 1956 Leslie found that nearly three quarters of the African population of Dar es Salaam as a whole lived in Swahili type houses (using roughly the same definition as mine for the urban Swahili type house). Kariakoo-- where virtually all houses today are of the urban Swahili type - seems to have served as a prototype for other, African housing areas of later development.

4.5 Factors influencing the form of the urban Swahili type house

Why was there such a strict adherence to the specific type of spatial organisation manifested in the urban Swahili type house? Why was not the free choice used for constructing completely different types of houses? Most of the original inhabitants of Kariakoo were not Zaramo, but came from up-country where the house types and methods of construction were completely different from the Swahili tradition. Why was the coastal building tradition so readily adopted?

The availability of building materials in Dar es Salaam, such as poles, mud and palm leaves, might explain why certain of the traditional up-country house types were out of question, but as there exist in rural areas, several completely different mud-and-pole house types, this factor is not a sufficient explanation for the predominance of the Swahili type house in Dar es Salaam. Furthermore, new materials like

Figure 4:XV. Typical German colonial administrative building in Dar es Salaam.



cement plaster, coral stones and corrugated iron sheets have replaced old ones without changing the spatial organisation of the house.

Climatic factors provide us with no better explanation. In fact, it has been argued that narrow houses are required to allow for cross ventilation; that palm leaf roofs do not protect well enough against heavy rains; that iron sheets transmit heat radiation, and thus that the urban Swahili type house is badly adapted to the climate along the East African coast (Schneider 1965:29, Master Plan TS 3 1968:41, Ahacic 1968:33, for further discussion see section 5.3).

One possible determinant of house form might be the lay-out and town planning regulations imposed by the colonial administration. The standard plot in Kariakoo is about 15 m wide and 20 to 25 m deep. These dimensions, in combination with building regulations stipulating that not more than 50 per cent of the plot should be covered by roof (Olenmark & Westerberg 1969:6) allowed for the extension of a Swahili type house as shown in figure 4:XIII. Starting out by building a traditional Swahili type house at the front of the plot and extending this back-

wards without abandoning the idea of a back-yard with outbuildings, the natural result was a main building of six rooms. Even if the regulation of 50 per cent roof coverage was violated as in figure 4:XII, the Swahili type principle of spatial organisation was retained for the main building.

It is not known why the chosen plot size was used, instead of another one. One indication that it was not arbitrarily chosen is given by the Senior Provincial Commissioner M.J.B. Molohan, who wrote in 1957:

"In Dar es Salaam I was shown some plots where the frontage had been reduced to 40 feet (≈ 12 m); thus precluding the erection of a standard type of house, the design of which had consequently to be altered. This I consider an unwise economy." (p 46f)

The plot size and the colonial town planning regulations for Kariakoo seem to have had some influence upon the development of the urban Swahili type house, but they do not constitute sufficient explanations as the same house type

is also frequent where no plot demarcation exists and where the Kariakoo building regulations were not enforced. Furthermore, it is necessary to study the economic, social and political reasons for extending the traditional one-family Swahili type house into a six to 12-room tenement house, e.g. why the colonial administration found it worthwhile to promote "a standard type of house" as mentioned in the quotation above.

The normal colonial housing policy in Africa was either to put urban Africans in Western-inspired housing estates of minimum standards, or to leave them to solve their housing problems completely on their own in pirate towns (Southall 1971:245f). Usually both methods were employed simultaneously. The Kariakoo solution is unique in the sense that it constitutes a combination of the two methods. There, "control" is achieved by laying out plots, and "low costs" are obtained by leaving house construction to the inhabitants. The policy of allowing Africans to build their own free-style houses was temporarily abandoned after the second World War "in order that the areas

concerned should be properly planned" (East Africa 1955:219), but the earlier policy was reintroduced because "unauthorised building began to take place on public land and unregulated building on freehold plots" (Report of the Municipal African Affairs Officer for 1951, quoted by the East Africa Royal Commission 1955:219).

Kariakoo, and other urban areas in Tanzania also seem to be unique in the sense that the late-colonial method of creating a stabilizing African middle class was employed already during early colonial times, through the promotion of African home ownership. In 1953-55 the East Africa Royal Commission found that home ownership "not only gives the African a stake in the town but allows a tradition of house design to evolve which is suited to local conditions" (p 212). This freedom in house design and the densely populated housing areas were considered to "breed a sense of community" (p 213), which made "the population appear... cheerful and contented" (p 214).

About the same time Leslie found that

"the large landlord class - more than 8 000 Africans - owning one or more houses inside the Municipality is a factor of the greatest importance in the building of a stable urban nucleus: --- One result of this large house owning class is alone of prime importance: that when the town expands outwards, as it has done twice in recent years, and more land has to be requisitioned from rural Africans, it is for Africans that it is taken..." (Leslie 1963:153)

Another advantage, for the colonial administration, of a stable house owning class is pointed out by Molohan (1956:40), who suggests, for new arrivals in towns, the introduction of a report system to be recorded by all owners of houses.

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It may be concluded that the colonial policy of promoting African house ownership was a decisive factor in the development of the urban Swahili type house in Dar es Salaam, but this factor came into effect only on condition that urbanisation followed a given pattern. This was the typical pattern in Africa under colonialism:

a fairly rapid migration of young men who need cheap and temporary shelter in town. Usually people went to town only if they already knew someone who could accomodate them while looking for a job (Leslie 1963:60). It is possible that the Kariakoo houses at the beginning served as guest houses for visiting relatives, i.e. as housing units for extended families, but in that case this function has been replaced by another one, because at least from the 50's and onwards almost all the urban Swahili type houses function as tenement houses for rent-paying lodgers.

The colonial market economy existing in urban areas obviously led to the breaking down of familial and tribal loyalties so that the profit-motive became the driving force for the construction of urban Swahili type houses. In his study from 1955-56 Leslie found that, although tribal associations were common in Dar es Salaam and important for acclimatization to town life, house owners preferred people of other tribes, because otherwise they were "constantly being called upon to come financially to the rescue, to postpone payment of the rent, or provide food" (1963:83).

Leslie calculated that house owners at that time got a return of 25 per cent per annum of their invested capital with little or no risks involved. Thus, as Dar es Salaam grew, the increasing demand for housing stimulated the already established house owners to make money from constructing and letting more rooms. They became landlords living in one or two rooms, while letting four or more rooms of their urban Swahili type houses. It is this type of house Molohan refers to when he notes that "it is designed for the accomodation of lodgers and there is no doubt that the existence of this type of housing has assisted towards relieving the housing problem in towns". (p 46)

Similarly it is reported from Mombasa that "Such a house type is particularly suited to sub-letting and four families per house (i.e. one per room) is common practice. --- The Swahili house ... has done much

Figure 4:XVI. View of Kariakoo, Dar es Salaam. Almost all buildings are privately built urban Swahili type houses.



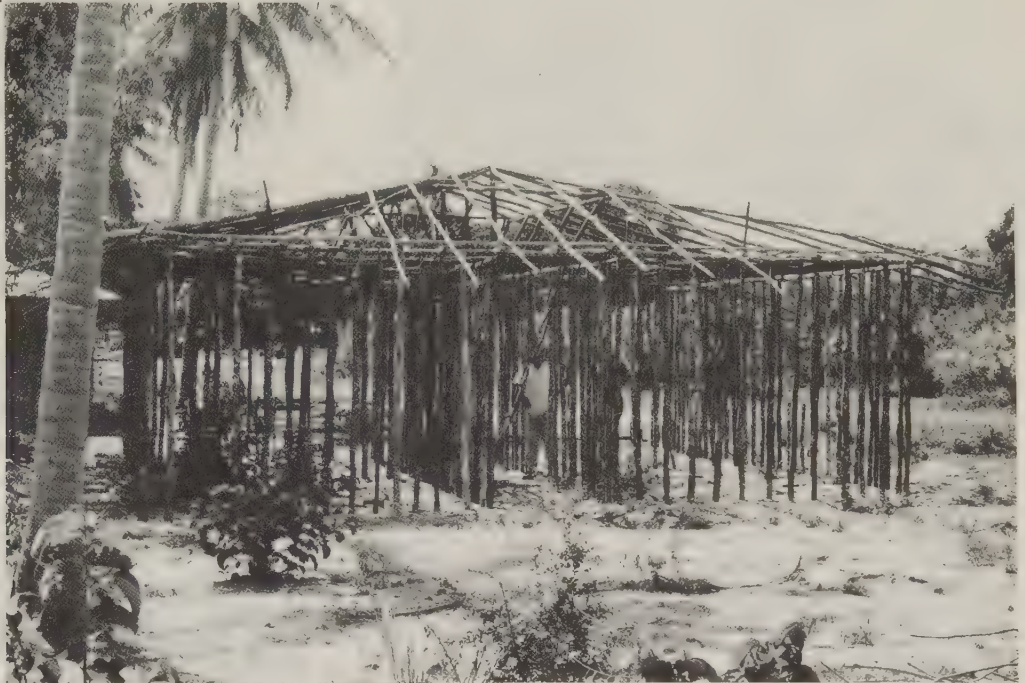
to alleviate the housing shortage in Mombasa..." (Dyer 1963:29f)

4.6 Characteristics of the mud-and-pole urban Swahili type house

Dyer mentions that the Swahili type house is the most common house type in Mombasa. Other sources indicate that it is frequently built, not only in other coastal towns, but also in towns up-country, at least in Tanzania. Probably the colonial policy to promote African house ownership, in combination with liberal town planning regulations, contributed to the wide distribution of the urban Swahili type house in East Africa. It seems likely that the houses in Mombasa and Dar es Salaam served as examples for African house-owners inclined to invest in houses for letting in other towns.

Concerning the development of the urban Swahili type house in Dar es Salaam, special

Figure 4:XVII. Urban Swahili type house under construction.



consideration has been given to the circumstances around the establishment of Kariakoo. This is motivated by the assumption that Kariakoo, as the first large housing area for permanent African urban settlement, has served as a prototype for later development. The second large African housing area in Dar es Salaam, Ilala, was laid out already in the 20's according to the same principles as those for Kariakoo. According to official sources quoted by Mascarenhas (1966:105), there were in 1948, in Kariakoo and Ilala together, about 3 000 houses, most of which were of the urban Swahili type. Assuming that there were an average of ten persons per house in these areas (Gibbs 1949:51), it can be calculated that roughly the same amount of people (30 000) lived in unplanned peri-urban areas in 1948. The house types in these areas were of a larger variety than those in Kariakoo and Ilala. Although most houses might originally have been one-family units, it seems as if the tenement system, together with the urban Swahili type house, extended to these unplanned

areas as well. As pressure for more land for housing increased around 1950, it was decided to demarcate plots for house construction in Temeke and Magomeni. Most of these plots were allocated to Africans who built urban Swahili type houses for letting

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Although the colonial government provided the conditions which allowed the privately built mud-and-pole urban Swahili type house to evolve, it was not regarded as fully acceptable. Obviously it was looked upon as a makeshift solution as it was alternatively classified as "temporary", "semi-permanent", "sub-standard", "non-durable" or as "third class". These concepts reflect the dominant colonial attitude to regard "native dwellings... unsanitary, cheap, uneconomical and ill-suited to modern methods of city planning" (Yahya 1969:25). Less prejudiced observers have found, however, that the urban Swahili type house may last almost inde-

finitely if properly maintained (Yahya 1969, Huyck et al 1969:47f). That the houses are well maintained under favourable conditions, is shown by Leslie (1957:143), who states that one third of all houses in Kariakoo in 1956 was constantly subjected to repairs. Yahya convincingly argues that the application of the concept of "temporary" a) inhibits the use of local materials; b) discourages research into the use of local materials and skills, and c) prevents the installation of community services in areas not classified as "permanent". He concludes that the Swahili type house

"is capable of evolving from a relatively simple stick and mud structure to a fairly complex and durable modern dwelling. This versatility and capacity for improvement is due not only to technological advance but also to the inherent structural and spatial qualities of the traditional dwelling form." (p 28)

Disproving that the Swahili type house is of a non-durable character also disproves the argument that it is uneconomical. In a comprehen-

sive study, presented in detail only in his preliminary manuscript (1957), Leslie shows (p 145-63) that the total building costs for a six-roomed unit of plain mud-and-wattle walls, thatched roof, earth floor, no ceiling, but with a fenced courtyard, outside kitchen and a pit latrine, was £ 180 according to the 1957 prices (including paid labour). The modernized version, with cemented floors, plastered walls, ceilings and iron-sheet roofing was calculated to cost between £ 300 and £ 350. The rents per month and room at that time were said to range from shs 10/- to shs 30/-, which meant that almost anybody with a reasonable regular income could afford to rent a room in an urban Swahili type house.

Leslie's calculations of 1957 have been verified by later studies. Thus, for instance, Leaning (1972:13f) maintains that in 1971 an improved four-roomed Swahili type house (without water and electricity) would cost about shs 2 500 in building materials and about shs 1 000 in labour, plus three months of the owner's time. Huyck et al (1969:47f) state that the urban Swahili type house is cheap enough to be accessible to 85-90 per cent of all urban households in Tanzania. Abolishing the system of individual house owners and introducing income or employment guarantees, Huyck et al also show that four households could rent an "improved traditional unit" with drainage and communal water supply for shs 30/- per month (1 1/2 room?) including payment of taxes on a 10-year 100 per cent mortgage arrangement.

The improved version of the Swahili type house represents a building standard far superior to that of most pirate towns in Africa. In fact, the unauthorized settlements of Dar es Salaam - comprising 30 per cent of the total population in 1968 (Master Plan TS 2 1968:134) - differ favourably from those in, for instance, Nairobi, Kampala and Lusaka, partly because of the generous extension of the communal water supply system, but probably also because of the predominance of the modernized Swahili type house in most of these areas (Leaning 1971:6).

In spite of the relatively high standard of the improved Swahili type house, it is still much cheaper than various forms of so called low-cost housing. According to Leaning (1972:14) a house in traditional materials costs only one fifth of a legal construction in "permanent" materials and with full services. An expert team of the Federal Republic of Germany, estimates that the building costs of an improved traditional house in a site-and-service scheme would be less than half of those in a completely government-built "minimum standard" house (Grohs 1969:12). Another source states that the money spent on building two modern flats of together six rooms in Mombasa could be used for building three (improved) urban Swahili type houses of together 18 habitable rooms (Mugumbya et al 1970:16).

If the costs of constructing a private house would have to be paid at one given moment, as is the case with contractor-built houses, it would not lie within the reach of an average African urban employee. In the case of the urban Swahili type house the building process may be divided into several stages, and as local materials and indigenous skills are being used, ini-

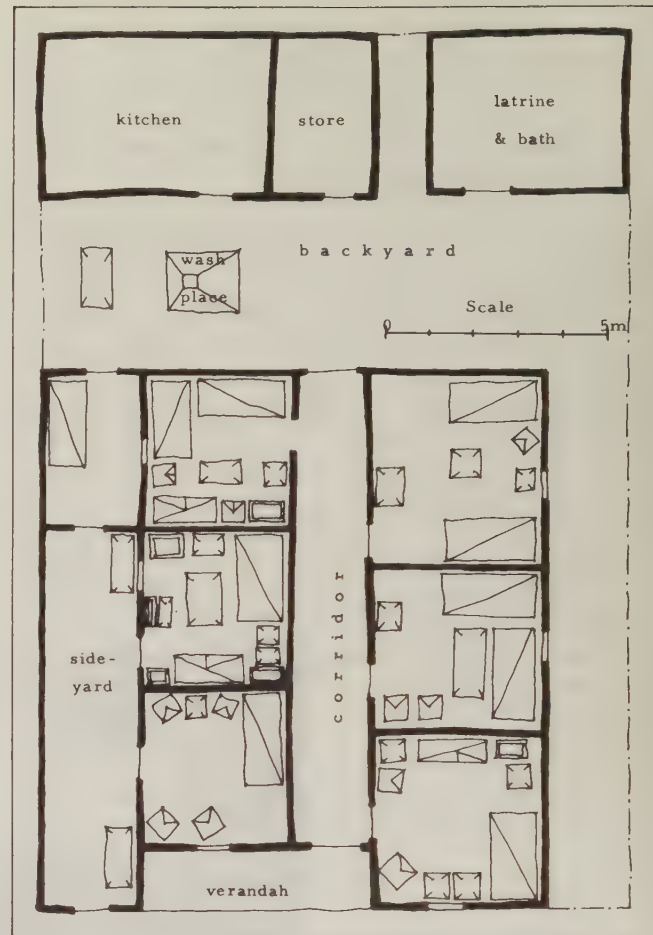


Figure 4:XVIII. Urban Swahili type house from Kariakoo divided into separate units (from Olenmark & Westerberg 1969).

tial capital costs are low. Usually building materials are accumulated over a long period of time before the actual construction starts. Improvements and extensions may be made as the financial resources permit.

The versatility of the privately built Swahili type house is shown in many ways. Using the definitions suggested by R Nilsson et al (1972:10f) the following aspects may be mentioned:

- The urban Swahili type house has a character of functional generality because the spatial organisation, except for the outbuildings, is not designed for a strict differentiation of household activities. The relatively large and quadratic rooms allow for versatility in furnishing and functional use. The arrangement of rooms around a central corridor allows for the division of the house into various combinations of household units. The division of spaces into indoor/outdoor, private/communal and into protected/exposed provides for a fairly high degree of freedom of choice between these spaces in location of activities.
- The privately built urban Swahili type house is also flexible because the ground plan can be changed within the limits set by the basic structure. New door openings can easily be made, while old ones are blocked so that the spatial organisation may be adapted to, for instance, the family cycle of the occupants. The most common changes of this kind is to block the door towards the corridor and make a new one towards the side of the house or to an adjacent room used



Figure 4:XIX. Interior of a room in an urban Swahili type house in Kariakoo.

by the same household.

● The house type is, furthermore, elastic because it may be extended by adding new rooms, either directly to the main building or around the backyard (see figures 4:XII and 4:XVIII). Sometimes additional habitable rooms are obtained by allowing the occupation of spaces originally build for other purposes like storage and cooking.

The three types of versatility pointed out above concern the organisation of dwelling spaces. Exploiting these possibilities of the mud-and-pole urban Swahili type house it can be adapted to almost any combination of household types: single persons, groups of bachelors, nuclear and extended families. A high geographic mobility means that one household may easily acquire a new room in the same house as another tenant moves out. A part of the house may also be cut off from the rest as shown in figure 4:XVIII. The versatility also means that the urban Swahili type house, which was developed and is still used mostly for temporary accommodation, may in the future be used for more permanent residence without changing the basic spatial organisation of the house, or possibly that today's "multi-family units could be converted to single-family units" (Huyck et al 1969:48). The need for such a "transitional building" is emphasized by Holm & Hjelm (1972:5).

● Besides versatility in spatial organisation the house type could also be said to be technically adaptable because of its special capacity to absorb innovations in building techniques and new

materials as mentioned above.

All these aspects of versatility imply that the mud-and-pole urban Swahili type house may grow organically in relation to its inhabitants instead of imposing restrictions and changing behaviour according to external decisions as is usually the case in government-built "low-cost" housing estates.

4.7 The NHC urban Swahili type house

Besides the privately built mud-and-pole urban Swahili type house there is the government built "low-cost" version of the same type, constructed of concrete blocks and factory-made joineries under the direction of the National Housing Corporation of Tanzania (figure 4:XX). In order to trace the origin of this version it is necessary to study the colonial policy of compensating evacuated house-owners and the post-colonial policy of slum-clearance.

Already at the end of the 19th century traditional African dwellings were scattered all over Dar es Salaam within a mile of the waterfront. According to Mascarenhas (1966:97) and Schneider (1965:36) the African urban dwellers were driven away from the centre of the city as Asian and European enterprise monopolized the area. Evidently these evictions were carried out without any semblance of compensation.

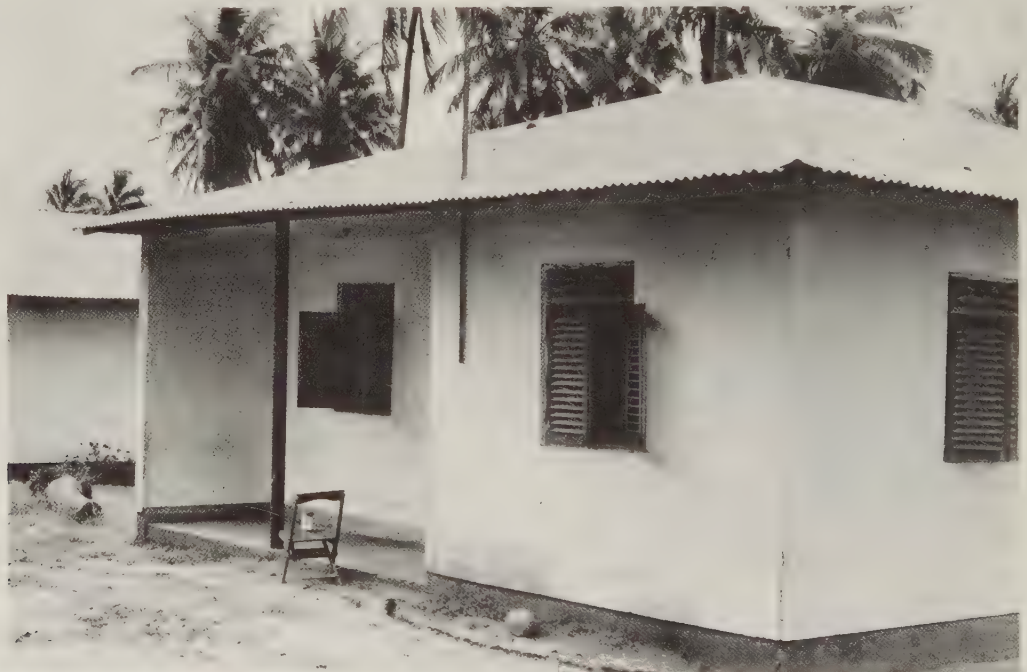
Later on a compensation system was introduced by the colonialists "in order to provide the small farmer who is forced to move to make room for urban growth with the replacement value of his present holdings" (Huyck et al 1969:23). When the central Kisutu area was evicted at the beginning of the 1950's, the

owners of the old houses received compensation based on "a liberally assessed modern value plus 50 per cent for disturbance" (Leslie 1957: 143). The compensated house owners were given a lump sum of £ 250-300, which, according to Leslie, was generally used for constructing a professionally built urban Swahili type house for letting.

Most of those who were evacuated from Kisu moved to the Magomeni area to the west of the city. Spontaneous development took place there until the government started to demarcate plots and open up the area for settlement in "regular" housing (in 1955/56). Both in the authorized and the unauthorized parts of Magomeni the Swahili type house was the most common house type. The roads and the water supply system built for the authorized parts, were used also by the people in the unauthorized parts.

As has been already pointed out the pirate towns of Dar es Salaam were (and still are) of a higher standard than those of other African capitals. Nevertheless the authorities consi-

Figure 4:XX. The NHC six-roomed house (type LC 8) is the most common government built house in Tanzania.



dered them unhealthy and socially "dangerous". The Swahili type houses were considered slums although they were constantly repaired and improved. In 1959 a study of Magomeni showed, for instance, that the proportion of houses with whitewashed walls, cement floors, piped water and corrugated iron roofs had increased tremendously during a period of three years (Magomeni 1959:3). Despite this, after independence, when government ambitions ran high, attempts were made to abolish them. According to Grohs (1968:8) president Nyerere in 1962 outlined a programme of slum-clearance in order to replace what was considered to be unhygienic and technically deficient structures.

For this purpose, and in order to co-ordinate "low-cost" housing on a national level, the National Housing Corporation of Tanganyika was founded in 1963. This had been preceded by investigations made by an Israeli expert team (Bar-Ilan & Porath 1962) and by the enactment by the Parliament of the National Housing Corporation Act (No 45 1962). The Israeli expert team recommended the applica-

tion of tenant purchase schemes (see below), because such schemes were considered to constitute a refined method of saving and because "a man with modest means and medium income may in the course of years become the owner of his home by paying only slightly more than a normal rent." (Bar-Ilan & Porath p 2). A subsidy of interests of 3-3 1/2 per cent was also recommended.

For the policy of slum-clearance "Standing Regulations on Slum Clearance" (Kijo & Ndove 1963) were worked out and adopted by the National Housing Corporation. According to the five-year-plan for 1964-69 in Dar es Salaam 5 000 mud-and-pole houses were to be pulled down and replaced by new ones. The programme was implemented effectively in Magomeni, where the quota of 1 200 replacements had been fulfilled already in 1967 (Grohs 1968:9). In Kariakoo the slum-clearance program was not implemented at all.

Under the slum-clearance scheme the house-owners had the right to be compensated

for loss of property. The compensation did not take the form of cash money as previously, but consisted of replacing the mud-and-pole structure with a concrete block structure of the same or a similar spatial organisation as that of the demolished house. According to Mr Kikenya of the NHC this procedure of compensation was the only reason why the Swahili type house was accepted by the NHC.

For the replacement of the mud-and-pole houses 12 "low-cost" house types were designed (figure 4:XXI). With the exception of type LC 5 these designs bear strong resemblance to the various versions of the privately built Swahili type house. The types LC 3 and LC 4 coincide with what has been defined as the traditional Swahili type house. Although containing four rooms the types LC 10 and LC 11 may also be placed in this category. The lack of a corridor indicates that they are not meant to accommodate more than one household. These NHC one-family units are more extensively discussed later. The remaining seven types are all variations of what has been called the

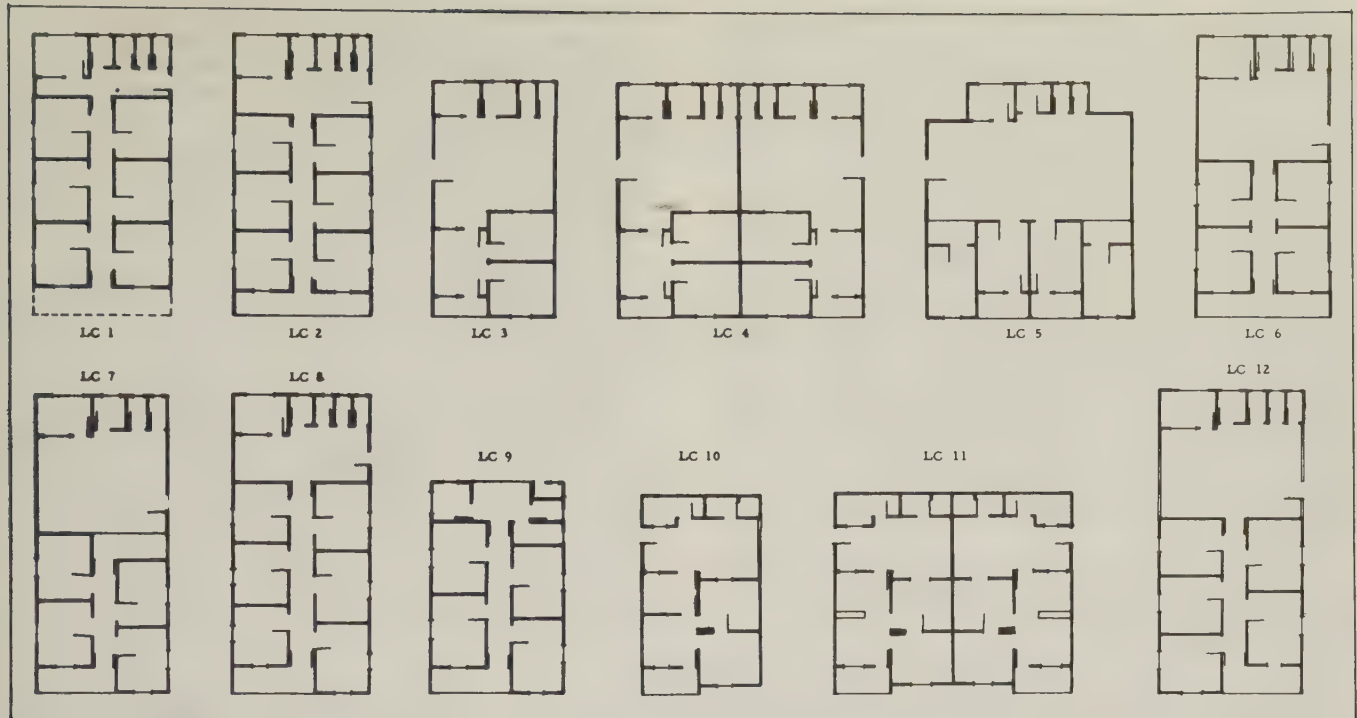


Figure 4:XXI. Low-cost house types of the National Housing Corporation of Tanzania.

urban Swahili type house, characterized by a central corridor leading to private rooms on each side. Type LC 9 has no back-yard with outbuildings and type LC 1 has no verandah. There are three four-roomed units, one five-roomed unit and three six-roomed units. The most frequently used type by far is LC 8. This type also replaced mud-and-pole houses of more than six rooms.

The NHC low-cost types consist of a concrete-slab foundation, plastered and painted concrete block walls, hard-board ceilings, sawed timber for joineries and a roofing of bush poles bearing corrugated metal sheets. According to the previous director of the NHC, H.G. Schmidt, self-help schemes, based on the recruitment of volunteers supervised by the NHC, were attempted at the beginning. However, because of the lack of skilled labourers and "bad discipline" this attempt failed (see also Arrigone 1965:23f). Instead labourers were employed at piece wages. The building costs for a LC 8 type house, including services, has been calculated at about shs 15 000, which is equivalent to shs 132 per m² roofed space (Grohs 1968:87f).

The new houses were built at roughly the same place as the old ones. Adjustments were made for planned road widths and such things. The house owners were given the choice to pull down the old houses themselves (and thus save the building materials) or to let bulldozers do it (Kijo & Ndove 1963:2). During the construction period the evacuated occupants were offered to live in houses especially erected for the purpose of evacuation. The new houses were given to the house owners on tenant purchase terms running over a period of 20 years. Until the last instalment has been paid the right of occupancy stays with the NHC.

One reason why such an expensive compensation system was accepted was that the house owning class constituted a strong political force.

From Nairobi it is reported, for instance, that "landlords are politically vocal and a scheme which does not receive their support is likely to prove a failure. --- It is advisable that the type of house to be offered for tenant purchase to the standholders gives them an average monthly income comparable to what they are already receiving if not higher." (Mbogua 1965:11)

This observation probably holds true for Dar es Salaam as well.

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The slum-clearance policy meant a decisive face lift for an area like Magomeni. The accessibility for cars and the sanitary standard increased. Not all mud-and-pole houses were replaced, however. The difference in distribution of NHC and privately built houses between various parts of Magomeni is shown in figure 8:II.

The slum-clearance policy also meant that under the first five-year plan (1964-69) the housing deficit accumulated instead of being reduced. According to Huyck et al less than 20 per cent of the targeted housing expenditure was covered and

"its impact was blunted by the fact that 70 per cent of the houses built in Dar es Salaam were under the slum clearance scheme and therefore did not add to the total housing stock" (p 30).

Finally, the special character of the slum-clearance policy also meant that the Swahili type house was accepted by the NHC. There is no evidence that functional or other qualities of the Swahili type house were studied, or even discussed, before it was accepted. Thus one may conclude - provided that the analysis in the previous parts of this chapter is correct - that traditional, internal factors has influenced the design of modern "low-cost" house types in Tanzania. Such a process has few, if any, parallels in colonial or post-colonial Africa.

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In comparison to the mud-and-pole version the advantages of the NHC urban Swahili type house are obvious: hygienic conditions are better, less maintenance is required and, thus, the life span is longer. Because of the ceiling and the well-built inner walls, the noise transmission is reduced. Windows and doors are more secure against burglaries. Compared to other "low-cost" housing experiences in independent Africa the building costs are very low. In 1969 they permitted a legal rent of shs 30 per room and month, which, according to my experience in Magomeni, coincided well with the market price (in Kariakoo it was higher). Even if a certain degree of subsidy is included in the tenant purchase terms it is evident that the NHC urban Swahili type house is one of the few low-cost house types in independent Africa which are cheap enough to be accessible to low income groups as well.

Despite the low building costs the NHC types are nevertheless much more expensive than the privately built mud-and-pole Swahili type houses.

Figure 4:XXII. Back yard of a Quarter type house in Magomeni with kitchen and latrine buildings.



For these the rent may be as low as shs 15 per room and month (in 1969). The lack of ceilings - although it facilitates the transmission of noise - means that the rooms may be cooler because of the freer air movements (Leslie 1963:69). Another disadvantage of the NHC types is that versatility is reduced in two aspects: less flexibility and less elasticity (but not less generality). Rooms may not be added, new door openings are not easily made and the outbuildings may not be altered (Kijo & Ndove 1963:5). However, an occupant of a NHC six-roomed unit may still obtain another room as the household expands and income increases. Different types of households may be accommodated in the same house. If especially requested before the new house is built, doors may be made towards the outside instead of towards the corridor.

4.8 The Quarter type house

The fact that official policy in the colonial period was to promote the privately built Swahili type house does not mean that there were no government built houses for Africans at all. As

in other colonies one-family houses were constructed by the Public Works Department for medium and high income civil servants. An increasing number of the occupants of these houses were Africans. Usually the houses were European-type detached villas, although often small in scale. Sometimes employers provided housing for African workers (Gibbs 1949:49f). Thus the NHC houses were not the first "low-cost" housing experience in Tanzania.

According to Leslie (1963:88) the end of World War II brought a heavy inflow of immigrants to Dar es Salaam resulting in the springing up of "shanty" towns. To combat this the British Colonial and Welfare Fund allocated money for the construction of "Quarters" to be rented at the lowest rent possible. Subsequently three types of Quarters were built: bungalows in Ilala, semi-detached villas in Temeke, and terraces in Magomeni. The two former types, which I consider to be conventional low-cost one-family units and which are comparatively rare in Dar es Salaam, are not discussed in this

thesis. The third type, which is the cheapest of the three and which is one of the most typical house types in Dar es Salaam, attracted my interest because it combines closeness to neighbours with individual entrance to each unit (figures 4:XXII and 4:XXIII).

A family unit usually consists of two quadratic rooms of about eight m² (88 sq.ft.) each, with an individual kitchen and a latrine. Many, but not all, units have small verandahs facing the street. There are also cases of one- and three-roomed units. Four units constitute one block, which in the case of Magomeni, together with three other blocks form a square yard as shown in figure 6:IV. In Magomeni there are 164 blocks forming a co-ordinated pattern of mostly quadratic yards, which thus serve 16 households each. The walls are of prefabricated and painted concrete slabs. The floor is cemented and the houses are provided with the simplest type of factory-made joineries. Obviously the roofs were thatched at the beginning, as Gibbs in 1949 suggested that this roofing material should be replaced by tiles (p 50). No ceiling exists, but the walls separating the units go all the way up to the roof.

Gibbs found the government houses "neat, clean and tidy" (p 50) in comparison with the Kariakoo Swahili type houses, which he considered "monotonous in the extreme" (p 52). For the "non-official Africans" (those who could not get access to government housing) Gibbs recommended the Dar es Salaam City Council to build blocks of flats and the terrace type of Quarters, among other things to reduce the amount of subsidy needed. He found that "terrace houses create a more pleasing form of cohesive development" and that "much greater scope is offered in the design of streets with the introduction of terraced houses" (p 52). In order to further justify what he considers to be the cheapest form of government housing Gibbs stated that, although "the African likes a detached house... we are confident that he does not dislike living in much closer proximity to his fellows" (p 50).

The terraced Quarters - in the following called the Quarter type house (leaving the detached and semi-detached versions aside) - have been built not only in Magomeni, but also in Kinondoni and a few other places in Dar es Salaam. It seems as if this house type, although not of the conventional low-cost type, is largely a desk construction reflecting colonial thinking at that time. No evidence has been found to show that its design has been influenced by traditional house forms or independently developed African aspirations. The Quarter type house is a ready-made structure for nuclear family living which has "skipped all the evolutionary stages of the improved Swahili houses" (Mascarenhas p 106). Compared to the urban Swahili type house the Quarter type house is said to offer "privacy" as each household has its own kitchen and latrine (Leslie 1963:88f).

From a climatic point of view the Quarter type house seems to be better adapted to local conditions than the Swahili type house. It is narrow and provided with window and door openings on both sides, thus permitting crossventilation. There is also a gap between the walls and the roof, which fills the same function. The Quarter type house seems to adhere rather well to the ideal house type for hot and humid climates as shown in figure 5:IV. No studies have been found, however, to show that the Quarter type house has in fact a comfortable micro-climate.

It has not been possible to obtain information about the building costs of the Quarter type house, but, assuming that the rents are only insignificantly subsidized (as suggested by Gibbs and confirmed by Leslie 1957:179), a rent level lower than that in the private Swahili type houses (Leslie 1963:87) implies that the Quarter type house is a remarkably inexpensive form of housing. In 1969 the rents varied from shs 15 to 29 per month and unit depending on the number of rooms rented and whether or not there was a verandah. After the establishment of the NHC the Quarters were taken over by this organisation from the Dar es Salaam City Council.

It has been noted that the Quarters attracted a certain category of people: Christian married couples of the clerical and artisan classes, mainly from tribes up-country (Leslie 1957:177). This is not astonishing considering that the City Council gave preference to applicants with a wage of shs 150 or more per month who could

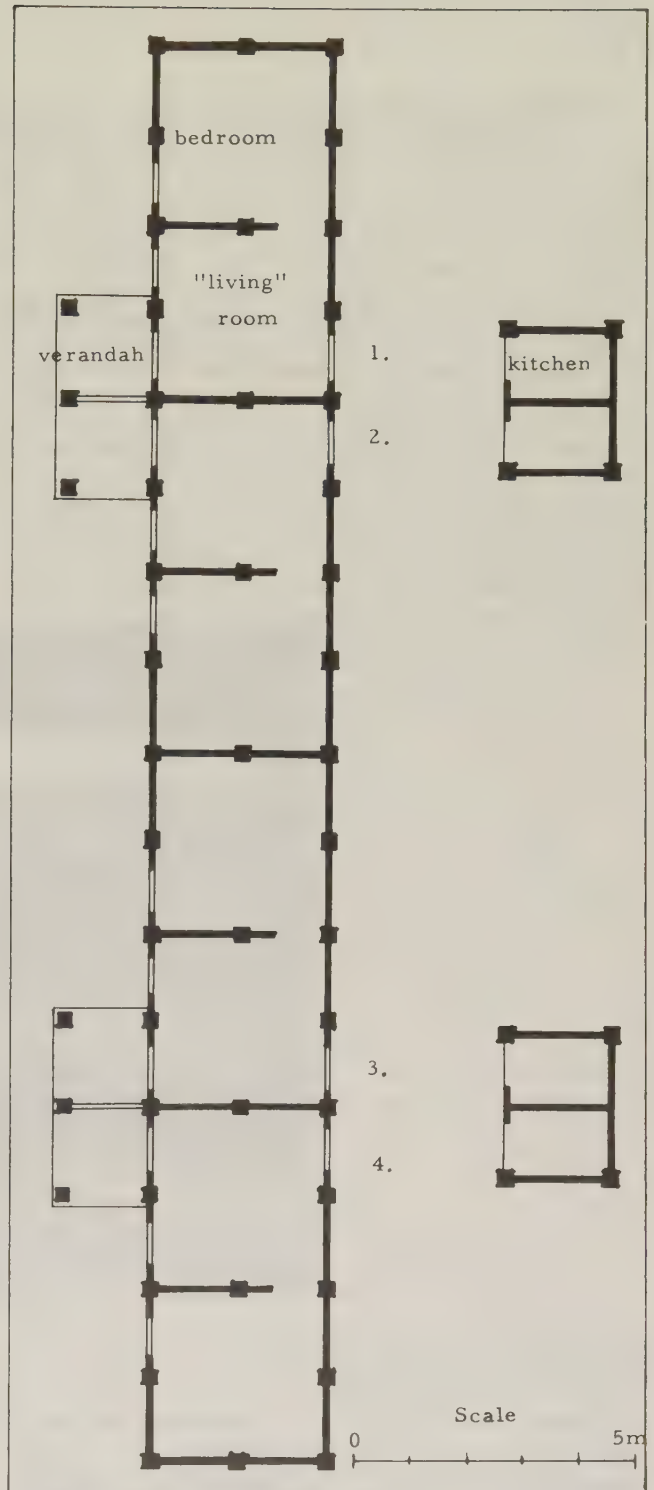


Figure 4:XXIII. Quarter type house (terraced) of four two-roomed units.

be expected to pay their rent promptly (Leslie 1957:177), and bearing in mind that the colonial educational system favoured the Christian religion and an individualist outlook (explaining the preference for the "privacy" of the Quarters). At the end of 1957 there was a waiting list of 1 200 with an average waiting time of about 18 months for the Magomeni Quarters. Later the income barrier was abolished, but the old tenants have usually stayed in their flats so that the specific social composition of the Quarter inhabitants has remained roughly the same. According to Leslie six per cent of

the Africans in Dar es Salaam lived in Quarters (all three types) in 1957.

4.9 The NHC one-family unit

The NHC Swahili type houses were not only built under slum-clearance schemes, they were also constructed on plots demarcated on virgin land. This was especially true about the one-family units (figure 4:XXIV). These types have been built in middle class areas like Kinondoni, Changombe and Temeke. The building material is the same as in the NHC six-roomed units. According to de Blij (1963:29) these areas are classified as second class residential areas.

The tenant-purchase scheme is usually not applied to the NHC one-family units. Depending on the type of house the tenants pay a monthly rent of between shs 60 and 80 (in 1969). As the medium rent paying ability in urban areas is calculated to be shs 50 (Huyck et al p 32) the NHC one-family units cannot be rented by the

Figure 4:XXIV. NHC one-family unit seen from the backyard.



low-income groups. A study from 1967 (Hoad 1968) shows that the medium income in the randomly selected sample in Kinondoni was shs 450 a month, which is far above the average for the Dar es Salaam African inhabitants. Hoad's study also showed that the nuclear family was the most common type of household. Only 15 per cent were single persons and the same proportion were registered as extended families.

As has been pointed out already the NHC one-family units are copies of the privately built traditional Swahili type houses. The main differences concern the building materials and the back-yards (which are not so strictly enclosed by walls and a single-unit outbuilding in the mud-and-pole houses). The NHC houses may also be put two together as in types LC 4 and LC 11 (figure 4:XXI). The fact that the back-yards are so well enclosed - the walls are often provided with glass splinters to deter burglars - makes the family-centered character even more striking than in the conventional types of one-family housing.

Although the NHC one-family units in their main spatial characteristics are copies of the traditional Swahili type houses, they are not built for the same kind of life. This is most clearly shown in the most elaborate of the NHC one-family units (LC 11, shown in figure 4:XXI). Here the spaces are not only functionally divided into sleeping and living rooms; the living room

is also divided into separate spaces for sitting and dining. These foreign concepts of functional differentiation reflect both the attitude of the NHC planners and the fact that the NHC one-family units can be afforded only by the most Europeanized urban dwellers. Thus it may be concluded that the NHC one-family unit is a traditionally inspired house type which has been adapted to a non-traditional way of living.

5 How does society affect its house forms?

In chapter 3 I pointed out the needed for theoretical progress in the study of the relationship between shelter and society. On the basis of the concrete analysis made in chapter 4 of three house types in Dar es Salaam, it is possible to contribute in this direction by making some reflections of principal nature. As a starting point for such a discussion I want to use the theory on determinants of house forms presented by Amos Rapoport in his book "House Form and Culture" (1969), one of the most elaborate theoretical works within its field (see section 3.1).

Rapoport argues that "the more forceful the physical constraints, and the more limited the technology and command of means, the less are nonmaterial aspects able to act" (p 58). But as the material constraints are never so strict that only one house form is possible, there is always a "freedom of choice" so that social and cultural factors may exert an influence upon house form. The degree of freedom for the socio-cultural influence varies inversely according to the degree of "criticality" of material factors. Rapoport assumes that the latter provide the framework in which the socio-cultural factors are allowed to operate. This assumption implies that people tend to make the best possible use of existing materials; that houses are located and shaped so that the micro-climate is as comfortable as possible, etc.

How do these assumptions correspond to the discussion about the origin of the Swahili type house?

5.1 Climate and family system in the Arab courtyard dwelling

Many observers have shown that the Arab courtyard dwelling owes its enclosed form to climate. The hot and dry, mainly continental, climate existing throughout the Arab world, has stimulated the use of thick stone or mud walls, placed close together so as to avoid being exposed to sun radiation. During the large variations in temperature between day and night the thick and heavy walls, following the principle of thermal inertia, serve as a retarding factor so that the house retains a certain coolness during hot summer days and a certain degree of warmth during cold winter nights. High courtyard walls and a minimum of window openings also reduce the penetration of heat.

These factors, and the necessity to protect against sandstorms, make the enclosed courtyard dwelling an ideal form in the hot and dry climatic zones, in which the Arab world is one of the most important areas. This conclusion is based mainly upon the writings of Azzawi

(1969:92f), Rapoport (1969:89f) and Asklund et al (1972:120f). Some examples of Arab courtyard dwellings are shown in figures 5:I, 5:II and 5:III.

Many observers have also shown that the spatial organisation of the Arab courtyard dwelling satisfies the needs of the Muslim family system. Some of the best analyses within this field have been presented by Brausch et al (1963 and 1964) and Schwerdtfeger (1971), who have made detailed studies of the interrelationship between social and spatial organisation within two different Muslim societies. In their report from the Bashaqra area settlement in Sudan Brausch et al (1964) conclude that

"The segregation of sexes obliges members of a household to live in separate dwelling groups in separate parts of the house or of the homestead. Descent and marriage are two threads which weave through the village a web linking these households together into neighbourhoods, providing a basis for the sharing of the various domestic services." (p 80)

Schwerdtfeger, who has studied the town of Zaria in northern Nigeria, points out that women were allowed to move around freely and play an important part in the politico-social life until the Muslim rule, as late as the 18th century, began to enforce segregation of women, which in turn had "a profound influence of the layout and arrangement of huts in compounds" (p 62f).

Within the Muslim family system the most important factor for the spatial organisation is what is usually called the "seclusion of women". Although "seclusion" refers to the

Figure 5:I. Typical Arab courtyard house from Ouargla, Algeria (Asklund et al 1972).

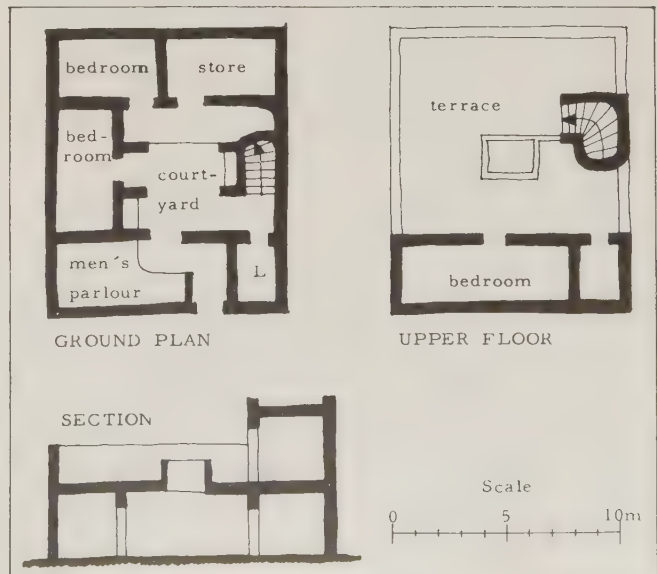
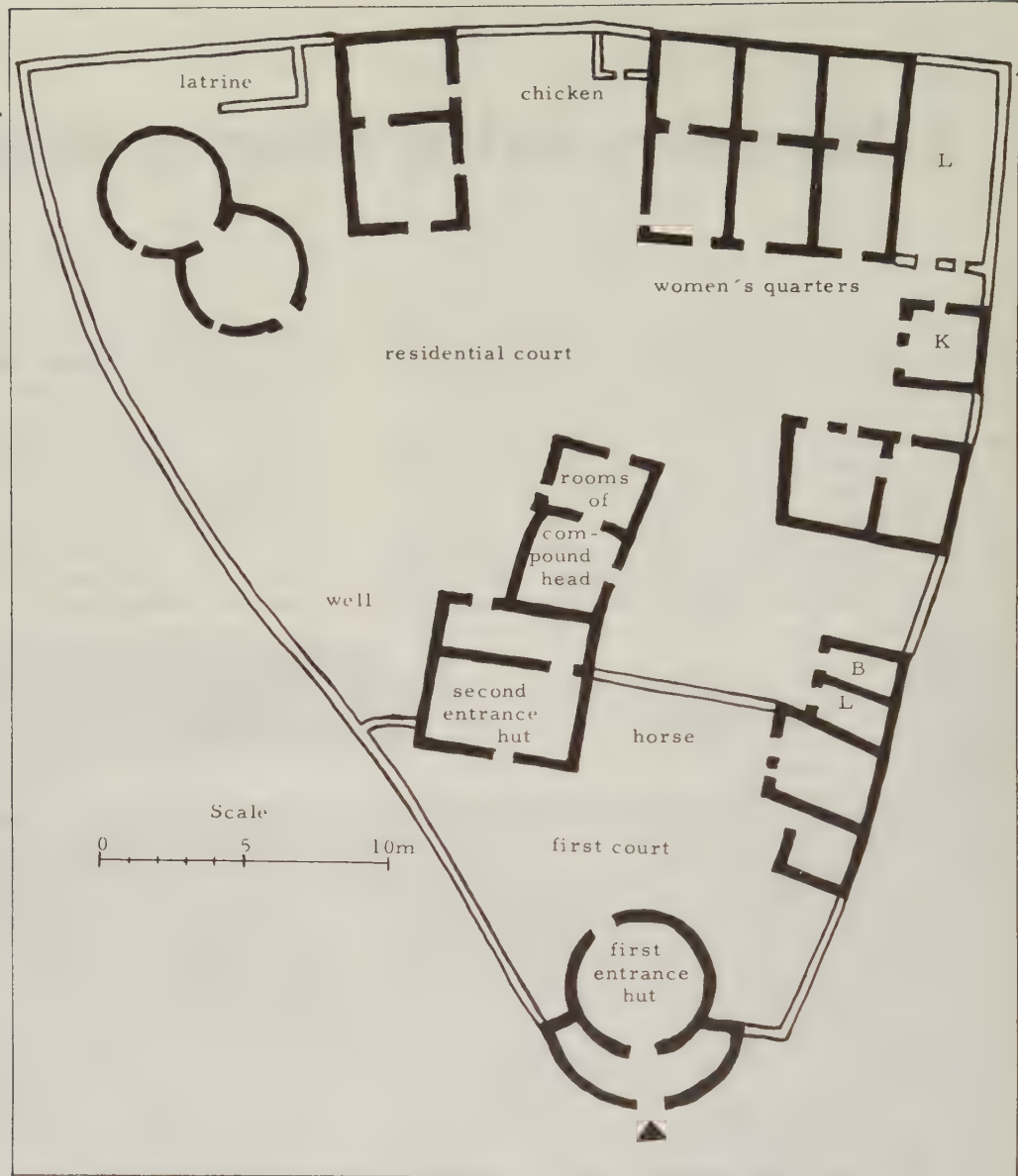


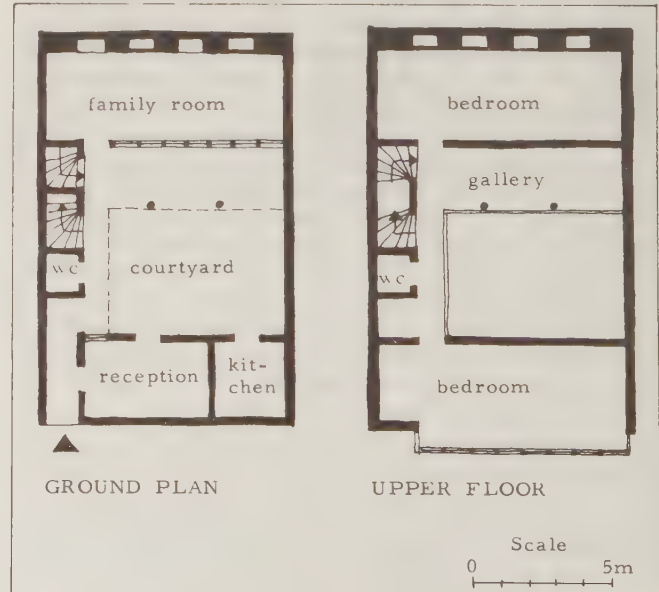
Figure 5:II. Muslim courtyard dwelling from Zaria, northern Nigeria (from Schwerdtfeger 1971:64).



fact that males and females of the same household have separate lives - for instance, that they eat separately - Fawzi (1954) points out that for most functions of family life the family is one unit, and that the important aspect for house design is that "seclusion" is valid only for one sex in relation to the 'stranger' or 'outsider' of the opposite sex" (p 77). Concretely this means that the women of the household must not be seen by the visitors of the men of the house. Fawzi emphasizes that a distinction must be made between visitors (e.g. neighbours) who drop in for social intercourse, and friends or relatives who come from far away to stay overnight.

The ways in which Muslim family requirements have been met, vary immensely, but a common feature in spatial organisation is the enclosed courtyard. In certain cases seclusion is obtained through a simple solution such as a bent entrance, preventing insight into the courtyard (figure 5:III). In other cases there are complicated systems of lobbies, entrance huts and forecourts serving the same purposes (figure 5:II). From the Bombay slum it is reported that Muslim homes have only one entrance and no windows, partly as a measure of security of the womenfolk against the eyes of all

Figure 5:III. Arab courtyard house from Iraq reconstructed from Azzawi (1969:92f). Note the bent entrance, the enclosed courtyard (which can be covered by canvas as a protection against dust-storms or rain showers), and the channels in the back wall bringing the wind into the courtyard.



males, except those of the family (Clinard 1966:75). Muslim houses are constructed so as to prevent insight from outside and most of them also have additional arrangements for segregation of sexes within the house.

Rapoport has pointed out (p 81) that courtyard houses exist also in non-Muslim cultures and that the segregated house form is also related to "crowding" and "over-all hierarchy". Leaving these aspects aside, for the purpose of the discussion below it is sufficient to conclude that in the Arab courtyard dwelling a socio-cultural factor such as family system, and a material demand such as that of climate have been harmoniously united in an ideal house form.

5.2 Climate and family system in the Swahili stone houses

In the previous chapter (section 4.1) we have seen that the Arab traders brought their traditional building techniques and concepts of house form when they settled on the East African coast. It was also indicated that certain modifications in house form were made because different types of building materials were available. Concerning climatic influence upon the houses it was mentioned that the Swahili stone houses were oriented so as to capture the wind and avoid sun radiation. But the enclosed house form, with a courtyard protected from insight, was not abandoned. According to Garlake (1966:88) high screen walls surrounded the courtyards as a result of the habit to seclude women.

It is obvious, however, that the climate of the East African coast is inconsistent with the enclosed form of the Arab courtyard dwelling. The small variations in temperature between day and night make massive structures unnecessary. No sandstorms necessitate tight walls. On the contrary, the hot and humid air and the existence of a permanent breeze, permit thin and permeable structures. Longish houses are more suitable for cross-ventilation. The ideal house form in the hot and humid climatic zone (figure 5:IV) is completely different from that of the hot and dry zone.

Assuming, as Rapoport does, that climate sooner or later claims its due, there ought to have been modifications of the Arab courtyard house towards the "classical solution of raised floor, wide eaves and no walls" (Rapoport p 85). In the available literature there is, however, no evidence of such modifications. Besides the orientation of the house, the only modification related to climate seems to be the absence of masonry steps leading up to the flat roofs, a fact which makes Garlake (p 88) conclude that the flat roofs seem not to have been used for outdoor living. Garlake points out that there were windows towards the courtyard but not in the external walls, and he expresses astonishment at the lack of adaptation to the existing climatic conditions:

"A great disadvantage of the absence of external windows and the presence of high external courtyard walls is that there is absolutely no cross ventilation - virtually

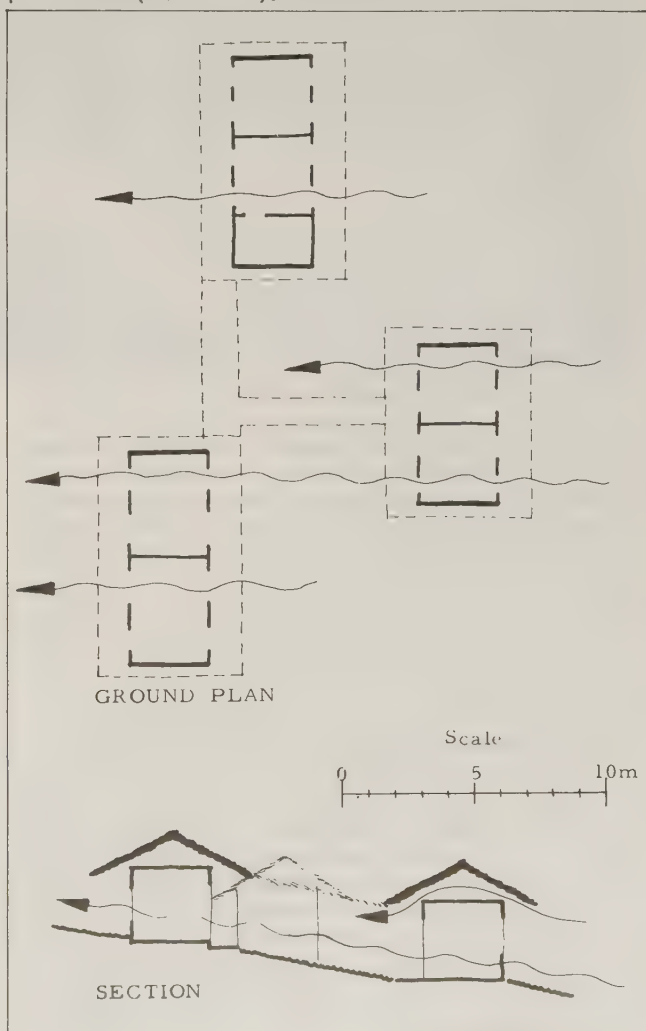
no breeze can penetrate court or house. On the coast, with its high humidity, this is a very serious drawback - if there is no movement of air, discomfort is immediate at all times of the year. It is strange that so fundamental a consideration was ignored by a people otherwise clearly conscious of their comforts and amenities." (p 88f)

There are several possible explanations to the survival of the enclosed Arab courtyard dwelling in East Africa. The assumption that the Arab building tradition was so strong that it would take more than a few centuries for climate to change it close at hand. Rapoport notes that "immigrants often bring forms with them to which they cling with great tenacity in spite of unsuitability for the climate" (p 86). It is not only a question of transferring artisan skills from one generation to another, but also:

"Tradition has the force of a law honoured by everyone through collective assent. It is thus accepted and obeyed, since respect for tradition gives collective control, which acts as a discipline." (Rapoport p 6)

The explanation based on "tradition" as a retarding factor finds some support with Garlake, who states that "slow change... is per-

Figure 5:IV. Spatial organisation and construction for maximum cross-ventilation and rain protection, reconstructed from descriptions by Rapoport (1969:93f) and Ahacic (1968:17f).



haps typical of the Islamic world" (p 12). I find this explanation insufficient, however, a) because the settlers mixed with the indigenous African population so that an independent culture appeared; b) because certain modifications in house form had to be made, thus breaking tradition anyway, and c) because "adaptations to the new climate are finally made" (Rapoport p 86).

Another possible explanation is that the use of stone - stimulated by the constructive advantages of coral and perhaps further motivated by prestige and defence considerations - might have prevented house forms suitable to the hot and humid climate. However, although stone walls can not be made permeable in the same way as those of grass or bamboo, large window openings and oblong structures can easily be made to facilitate cross-ventilation. Furthermore: even if prestige and defence were important factors in house construction for the Swahili upper class, it is doubtful whether other building materials, serving the same purposes but better adapted to the climate, could not be used.

As far as I can see the most credible explanation for the survival of the Arab courtyard

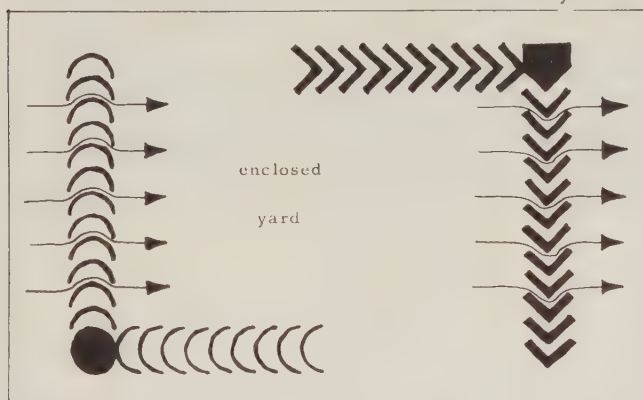


Figure 5:V. Examples of open work screens letting the breeze through while preventing insight into the enclosed yard.

dwelling in East Africa is that the Muslim habit of secluding women requires an enclosed house with a court, which, for building technical reasons, can not be combined with a house form that would let the breeze exert its cooling influence upon its inhabitants. To verify this hypothesis it is necessary to show a) that the two requirements can not in fact be satisfied simultaneously, and b) that the Muslim family system was not modified under the pressure of the circumstances so that the demand for seclusion gradually weakened.

Concerning a) it is obvious that with modern building techniques and building materials it is possible to construct a wall which lets the breeze through without allowing insight (figure 5:V). Such solutions have been mentioned by Abdulla (1967:4) and by Taylor (1967:212). However, in the absence of advanced reinforcement and precasting techniques it was probably impossible to solve the problem of cross ventilation in the Swahili stone buildings.

Concerning b) the scant information available gives no indication that the habit of seclusion was being modified. In the few passages where the problem is touched upon (Kirkman

1964:104, Garlake 1966:88) it is only stated that house form was adapted to the habit of secluding women. In order to establish to what extent changes made in the Muslim family system under the influence of the African/Swahili culture as well as from other factors, a separate study is required, but such a study would not necessarily answer the principal question of a fundamental contradiction between Muslim family system and hot and humid climate.

Rapoport notes, en passant, both that courtyard houses accompany separation (p 81) and that privacy is a problem in hot and humid climates (p 93), but he does not treat these observations as a contradiction of fundamental significance for his theory. Without falling victim to any simplistic climatic determinism it may be concluded that a verification of the hypothesis about a fundamental contradiction between family system and climate has far-reaching theoretical implications as house form in such a case would prove to be of crucial importance for society as a whole and vice versa.

5.3 Climate and family system in the mud-and-pole Swahili type house

Whereas the typical Swahili stone house was only insignificantly modified by the coastal climate of East Africa, there are clear indications that considerable modifications have been made in the case of the mud-and-pole Swahili type house. Verandahs and large eaves of roofs have been introduced just as postulated by Rapoport. Obviously the stone houses had flat roofs which were easily spoilt by heavy rains. According to Prins (1961:76f) the Swahili type houses had gable type roofs (open at the ends and probably thatched) on the top of flat (mud-and-pole) roofs in the northern part of the coast, and four-sided (hip) type roofs without a ceiling in the south. These different types of roofs could be seen as stages in a development process of adaptation to the hot and humid climate.

Sleeping on the roof is not necessary in the hot and humid climatic zone - a factor which might have facilitated the introduction of new roof types. Thus the abandonment of the flat roof did not take place in contradiction to family requirements. Concerning other aspects of the spatial organisation of the Swahili type house the existence of contradictions between climate and family life may be discussed further. A distinction must be made between the rural and the urban Swahili type house.

In the rural Swahili type house it is evident that the Muslim family requirements are not met. First it may be noted that while the organisation of space in the typical Swahili stone house (figure 4:II) coincides well with the observation by Rapoport (p 80) that the "threshold" in Muslim houses is put as far away as possible from the private domain, this expression of the Muslim family tradition can not be found in the mud-and-pole Swahili type house. Here the front yard of the Swahili stone house has been replaced by a verandah, open to the street so that the "threshold" is situated in immediate proximity to the private domain.

Secondly, the rural Swahili type houses often

lack walls around the backyard, which means that the Muslim requirement for privacy is not so strictly adhered to. The prevention of insight into the backyard seems to be arbitrary.

Thirdly, when regarding the house plans shown in figures 4:II to 4:VI as a sequence in a development process, one can trace a clear tendency away from segregation of the sexes. In today's rural Swahili type houses there is usually no provision for "seclusion", neither in the sense that the women of the house can not be seen by male visitors, nor in the sense that the movements of the men and those of the women of the house are strictly separated.

We may ask ourselves why the Muslim family requirements have not been met in the rural Swahili type house. An assumption close at hand is that climate, by exerting its due influence upon house form, has prevented the establishment of the Muslim family system.

However, although some climatic modifications have been made, the rural Swahili type house is not well adapted to the humid climate

Figure 5:VI. Mud-and-pole Swahili type house along the road between Dar es Salaam and Bagamoyo.



of the coast. The houses shown in figures 4:IV to 4:VII might allow some air movement through the central corridor, but as the rooms lack window openings the indoor climate is intolerable. Therefore it seems likely that other than climatic factors account for the lack of provision for "seclusion". It is possible, for instance, that defence or security considerations motivated solid walls without large openings. It is also possible that - although the coastal Africans were usually islamized - they retained enough of their original religious and family traditions to prevent a whole-hearted adoption of the Muslim family system (Lewis 1966:11).

As long as the development process of the mud-and-pole traditional Swahili type house is not known in detail and as long as there is no study of this process in relation to variations in family life, it is not possible to answer the question of why this house type has not met the requirements of the Muslim family.

Concerning the urban Swahili type house - in which both Muslims and Christians are frequent - the lack of adaptation to the coastal climate

is even more striking than in the case of the rural Swahili type house. Although provision for "seclusion" has been abolished, the enclosed character of the house is still as evident as in the case of the Swahili stone house. Consequently

"The... Swahili house with its central corridor sealed off from private spaces allows for no movement of air. Windows in rooms face to the side and towards the unit next to it. No cross-circulation is therefore possible. The outdoor courts are generally completely solid and wind movement within courtyards is almost non-existent." (Master Plan TS 3 1968:41)

The enclosed form of the urban Swahili type house is motivated neither by climatic nor by Muslim family requirements. According to the discussion in section 4.5 the colonial policy to promote African home ownership, in combination with the need for tenement accommodation in urban areas, were in this case among the most important requirements influencing

house form. The high building density required in urban areas and the standard plot size introduced by the colonialists, probably contributed to the enclosed house plan, but I estimate that the need for protection against burglaries and the coastal building traditions - relying heavily on the space concepts of the rural Swahili type house - provided the "final" determinants of the enclosed form of the mud-and-pole urban Swahili type house.

5.4 On the significance of contradictions

In case of all three East African house types discussed above we have seen that the dwelling spaces are not arranged so as to provide a comfortable micro-climate for the inhabitants. This can not be satisfactorily explained by referring to "poverty" or "primitive methods of construction" (Ahacic p 33) or by concluding that the people have not made the best possible use of existing means. Irrational and incidental

factors should not be excluded, of course, but in the analysis above I think there is enough evidence to show that various comprehensible socio-cultural factors have prevented the development of house forms suitable to the hot and humid climate of the coast.

This means that "socio-cultural" factors such as family system, building traditions, security and political motives have proved to be "stronger" than a "material" factor such as climate, which is a conclusion contrary to Rapoport's theory as interpreted in section 3:1. This does not mean that Rapoport's distinction between "material" and "socio-cultural" determinants is erroneous, but rather that each problem must be seen in its totality and that no type of determinant must be assumed to have absolute priority over others - a conclusion in concordance with the general spirit of Rapoport's presentation.

I do, however, think that the discussion above indicates a weakness in Rapoport's theory: his disinterest in contradictions. Rather than seeing them as vital components of great explanatory value, Rapoport slips past contradictory observations and treats them as exceptions (which they could, of course, be without losing their value as means of tracing problems of theoretical interest). If human shelter types in general are seen as solutions to the fundamental contradiction between man and nature, then buildings appear not as static objects, but as living organisms, constituting dynamic forces in society.

Rapoport does not altogether rule out contradictions and dynamism, but as he assumes that there is "great uniformity in space and time of primitive and vernacular buildings", he permits himself to conclude that "our topic is best approached from a specific point of view analyzing the buildings themselves rather than trying to trace their development" (p 15).

One result of this static view is Rapoport's tendency to refer all factors which are not easily defined to a rest pool called "socio-cultural factors". By not analysing the dominance/subordination relationship between various contradictory demands upon house form, and by seeing various socio-cultural factors as independent variables without a structural relationship to each other and to a material base, Rapoport's theory assumes a mysticist character. I want to illustrate this point further by examining his basic assumptions about the kind of society he studies.

Rapoport restricts most of his discussion to "primitive" and "vernacular" architecture. "Primitive architecture" is defined as buildings produced by what anthropologists call "primitive societies", characterized as "preliterate", "unspecialized", "isolated" or "self-contained" societies (p 3f). Like Fraser (p 113) I want to emphasize that the term "primitive" is not used here in any derogatory sense. Building types in primitive societies are usually of a very limited range, produced by anybody in the society, without conscious aesthetic striving or desire for originality. "Vernacular architecture" is defined as "indigenous" or "popular" buildings in societies which are no longer "primitive". Such buildings are built by tradesmen, but still with the participation of the (peasant) owner, and

they offer more individual variation of the model, although the building types are still limited in number. "Primitive" and "vernacular" architecture, which is here jointly called "popular" architecture, is seen as detached from "high-style" or "modern" buildings. Thus the term "popular" is defined according to the socio-economic conditions under which such architecture is produced irrespective of the number of people who "like" or use this architecture.

According to Rapoport, popular architecture is characterized by traditionbound concepts of space and building techniques, which "explains the close relation between the forms and the culture" (p 4). Since the owner/occupant participates in construction, the individual=collective needs and aspirations are directly expressed in the buildings. This is the essence of Rapoport's basic assumptions about the society he discussed.

I would, however, say, that Rapoport's assumptions are valid only under ideal conditions, which no longer exist in our world. Many "primitive" societies ceased to be collective, classless communities thousands of years ago. Instead they became socially differentiated, which means that contradictions started to develop between different strata of the population (Amin 1973: 9-48). Usually it also meant that the buildings were differentiated in types and models. Nevertheless the popular architecture in these societies - characterized as "pre-industrial vernacular" by Rapoport (p 4) - could be regarded as expressions of the aspirations of the people as long as a ruling class/obligarchy did not intervene to such an extent that the popular aspirations could not find expression in house form. This also holds true for vernacular architecture in "modern" (i.e. industrialized) societies, where the culture of the dominant class can be expected to exert a strong influence upon the popular architecture. It is not possible, however, to assume that there is a direct relationship between house form and popular aspirations without making a thorough investigation of the concrete situation in each particular case.

5.5 Imperialism as a disturbing factor

In the non-industrialized part of the world the most important factor "disturbing" the ideal situation described by Rapoport is imperialism (of which classical colonialism is the first stage). Already at the end of the last century imperialism - defined as a system in which the leading capitalist states gain control of other countries to secure raw materials and sales markets - had incorporated the whole world into its economic and political hegemony. This means that there were no longer any self-contained cultures producing only for its own collective needs (Amin 1970:344-360).

Although imperialism did not immediately affect the buildings of the suppressed peoples, the direct relationship between built form and culture was done away with as the traditional social formation was changed and as foreign cultural concepts became dominant. There are numerous examples showing that imperialism has

had serious implications for popular house forms in Africa.

In the rural areas the colonial administration seldom introduced new house types by direct intervention. The traditional house forms usually underwent gradual change by intervention into other aspects of people's lives. From the Bakosi area in Cameroon, for instance, it is reported, that the German colonialists reorganized traditional village settlement patterns into straight-line spatial arrangement, which in turn changed the pattern of interaction and intermarriage among the Bakosi people. The author makes the following conclusion:

"The transformation of the village from a scattered set of patrikin settlements to a unified, open village was only one of the changes of the concepts of space and design. The German colonists in Cameroon built stone structure and large frame buildings for their own use. To build these they trained carpenters, sawyers and stone masons, and imported European tools and materials. The dramatic changes in technology and potential use of stone, lumber and other techniques spread rapidly. In short, they produced a revolution in technology and in design concepts." (Levin 1971:150)

The most fundamental transformation caused by imperialism was that of the social formation traditionally composed of various pre-capitalist modes of production. The introduction of cash-cropping and wage labour meant that the capitalist system was imposed upon the African communities. The changes in the modes of production also resulted in changes in social structure. Large segments of the peasantry were proletarianized and transformed into agricultural or urban workers, while other segments became prosperous or less prosperous producers for the export market. Small groups of Africans were absorbed by the administrative apparatus, while large groups found themselves outside both rural and urban economy - as an unemployed or underemployed lumpenproletariat.

The colonial transformation of the traditional social formation is sometimes linked directly to the emergence of a new house type. An example of such a development is given by Ojo (1966), who reports that

"Since 1947, a time which also coincided with the sharpening of the economic differentiation of the cocoa-growing areas from other areas, almost all settlements of the former have erected storeyed buildings in proportion to the output of cocoa." (p 154)

In other cases changes in house form are related to the colonial destruction of traditional culture and the imposition of a new - commercial and completely foreign - culture. Different observers (e.g. Swantz 1965:33 and Schwerdtfeger 1971:74) claim that round house forms have been replaced by rectangular ones in various parts of Africa as a result of such an influence. It has not been possible to find any detailed study of such a transformation, but it seems unlikely that traditionally round houses would be abandoned exclusively because of the "prestige" of the colonially built rectangular houses.

The rectangular form has possibly been motivated also by the introduction of metal sheet roofing, which can not easily be combined with round house forms. Many observers maintain that the metal sheet roof is used purely for prestige reasons (see, for instance, Rapoport p 25). Such a statement is premature as long as the motives for using metal sheets are not studied in detail (see section 5.8), and it is misleading as long as the prestige consciousness of the indigenous population is not related to the penetration of colonial culture, which has, for instance, implanted a strong contempt for traditional building materials. Prestige motives for new house forms can probably be better explained if related to changes in social structure (see, for instance, Rutter 1971:170).

5.6 Popular housing in urban areas

In urban areas completely new space concepts were introduced for the indigenous population. German grid-iron street patterns and British garden cities were outlined. Government housing estates were constructed with, as we have seen, colonial objectives in mind. La Fontaine reports from such estates in the Belgian Congo that "the housing is of a standard type and modifications by the occupier is expressly forbidden" (p 25).

It may be disputed just how vital it was for imperialism to introduce foreign (European) house forms for Africans. What can not be disputed, however, is that changes in the economic, political, social and cultural life of the colonized peoples were integral parts of imperialism. And, sooner or later, these changes also affected house forms as the traditional determinants of house form were changed.

The introduction of wage labour implied, among other things, that less time was available for participation in building one's own house, which in turn meant that professional house builders were employed. As this group absorbed new building techniques, knowledge of new building materials and foreign space concepts, the "expert" influence over house construction increased.

Urbanisation, wage labour and the commercialisation of most aspects of daily life disrupted the traditional value system to such an extent that there was little force left to resist the colonial cultural influence. In urban areas the colonial domination of culture was almost total. All evidence shows that traditional house forms, if at all established in towns, were quickly replaced by new ones. Even in pirate cities, where colonial control was weak, traditional house forms soon disappeared. One reason for this is that the high concentration of people and houses necessitated house types which could be squeezed into the limited space available. Another reason is that certain local building materials became scarce because of the high concentration of houses, which in its turn meant that the costs of these building materials gradually increased to such an extent that they finally became as expensive as manufactured materials. A third reason is that in towns there was usually no need to build for traditional family requirements as migration

produced a disintegration of the traditional family system. For many urban workers the house became a place mainly for sleeping and storing personal belongings. There was seldom a community strong enough to uphold traditional habits of social intercourse or traditional symbolic or other cultural elements in house form.

In the large cities - the most commercialized parts of the colonies - the profit motive rapidly became the driving force in house construction. This was the case with the housing estates built by the mining companies in Central and South Africa. This was also the case with the government "low-cost" housing estates in the sense that "law and order" was believed to be established at lowest possible costs by such housing, despite the fact that "low-cost" housing is much more expensive than traditional constructions. In those cases where house construction for the large groups of temporary urban dwellers was left to private enterprise, tenement housing developed with the profit motive as the driving force. One example of how this factor made traditional house forms change is the urban Swahili type house. Similar developments took place in the Belgian Congo (today's Zaire) and in the Yoruba cities (southern Nigeria).

These two areas are the only ones in colonial Africa where I have found housing conditions similar to those of the urban Swahili type house. There has been a "freedom of choice" in the sense that house construction was left to African enterprise. Thus traditional elements had a formal chance to survive, but instead the market forces produced changes in the direction away from traditional house forms.

5.7 The *parcelle* house in the Belgian Congo

In the major cities of the Belgian Congo a compound (*parcelle*) house, shown in figures 5:VII and 5:VIII, developed as a result of a new policy towards urban African settlement introduced by the colonialists in 1931. Earlier than in most other African colonies it was realised that the best way to solve the problems of rapid urbanization and private settlements was to "stabilize and develop the labour force" (Pons 1969:35) instead of keeping the Africans temporarily in labour camps detached from their kin groups in the rural areas. Therefore a law about "extra-customary centres" (*Centres Extra-Coutumier*) was introduced, with the aim of transforming the pirate cities into legal settlements.

The new law stipulated that dwelling compounds (*parcelles*) could be allocated to individual African title-holders who were allowed to construct houses according to their own free choice. I have not been able to establish to what extent traditional rural house forms were retained in these areas, but at least traditional building materials were used. According to La Fontaine (1970) and Pons (1969) saplings and mud were used for the walls and thatch for the roofs, which meant that the buildings were cheap (Pons p 289) and versatile (La Fontaine p 117).

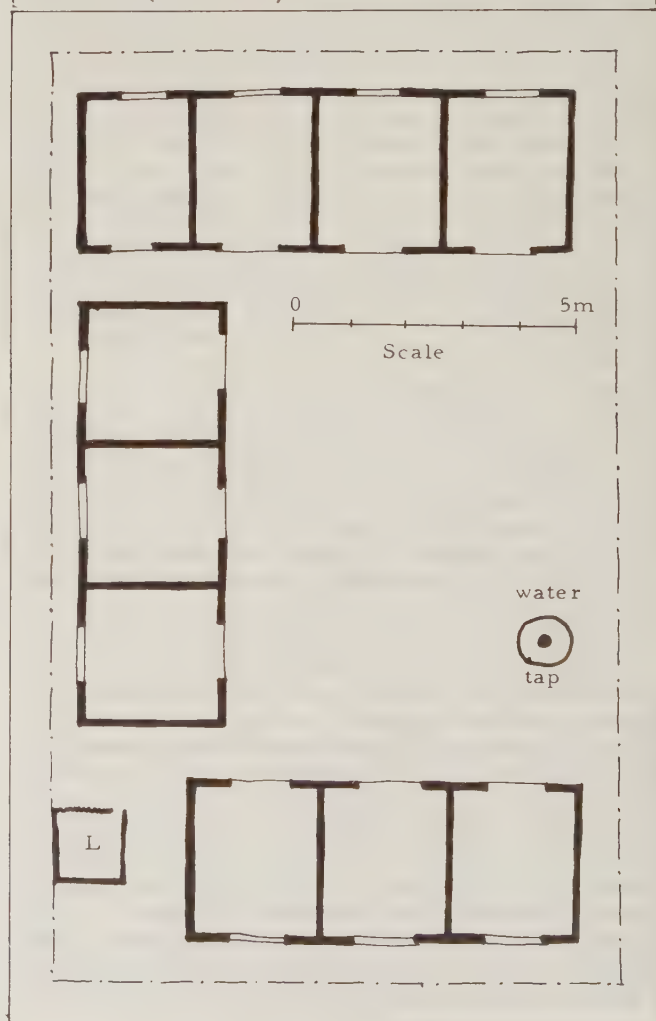
However, under the pressure of the foreign environment new building materials were introduced and building density increased, which in

turn modified house form. At least in Stanleyville the town planning regulations stipulated that fences were to be erected around the marked out compounds, which made the spatial organisation of the compound more individual-oriented.

Unlike the case of Tanzania the authorities in the Belgian Congo intervened directly into the family life of the Africans by stipulating that only monogamous nuclear families were allowed in urban areas. According to Pons (p 36) men who were known to be polygynous were refused admission even if accompanied by only one wife, and already established title-holders were liable for eviction if found with more than one wife. A married woman who settled in town with her husband was allowed to stay only as long as the marriage lasted, which was believed to be an effective method of preventing "promiscuity" and increase "stability".

In the market economy of the cities the compound owners saw their plots of land as a capital investment; as a means to make profit by building tenants' lodgings. Thus the original family units were often complemented with additional units for lodgers. Figure 5:VIII shows that the spatial organisation of the compounds does not follow a strict pattern. The wide plot frontage does not necessitate an enclosed house form. A higher building density was also prevented as the colonial administration, in certain areas, introduced minimum housing standards

Figure 5:VII. Typical compound in Leopoldville, elaborated from descriptions by La Fontaine (1970:124).



and even standard type houses in order to stifle the effects of the development towards more tenement housing (La Fontaine p 25). Nevertheless certain houses appeared to have a spatial organisation similar to the urban Swahili type house (see plots no 14, 20 and 22 in figure 5:VIII).

In the Belgian Congo there were no traditional urban settlements strong enough to resist the colonial influence upon house form. Therefore traditional house forms could not be expected to survive in the cities. The "freedom of choice" left for house construction in the "extra-customary centres" meant that popular aspirations could influence house form to such an extent that these housing areas presented an appearance completely different from the government housing estates, but at the same time they were heavily dependent on the market forces, which modified house form. It is difficult to establish to what extent this was made at the expense of the needs and aspirations of its inhabitants.

5.8 The compound house of the Yoruba cities

In the Yoruba cities there was an indigenous urban housing tradition strong enough to resist immediate colonial destruction (see section 3:2). The traditional house type is the Yoruba compound around which rooms are arranged as shown in figure 5:IX. The origin of this house type is described by Ojo (1966) in the following way:

"Yoruba houses were arranged to reflect what may be described as the political organisation of the society, which in itself was evolved to meet the challenges of the environment. In this arrangement, the inmates of a compound are responsible to the heads of the simple families who in turn make the head of the extended family or patrilineage their focus. All of them gravitate to the chief of the quarter." (p 132)

Thus spatial organisation is mainly determined by a socio-cultural factor as family system, which in turn is closely related to the political system. The close relationship between house form and social structure has been particularly well analyzed by Lloyd (1955 and 1962) and Krapf-Askari (1969:63-81). The latter states that, although the number of people in one compound may vary between 15 and 450 there is hardly ever a so called "elementary" or "conjugal" family alone in one compound (p 64).

According to Ojo (p 147) and Lloyd (1955:236) there was great uniformity in layout and style of the compound house in the Yoruba cities. It has not been possible to establish whether modifications in house form occurred in precolonial times, but there are indications of changes already in the early colonial period. Ojo reports, for instance, that the European missionaries - although they used local building materials - constructed European-inspired detached bungalows with outhouses, which is said to have had a certain impact upon traditional house styles in the Christian villages (p 151f). However:

"Still the urge to imitate the new style of architecture was not strong until new forms

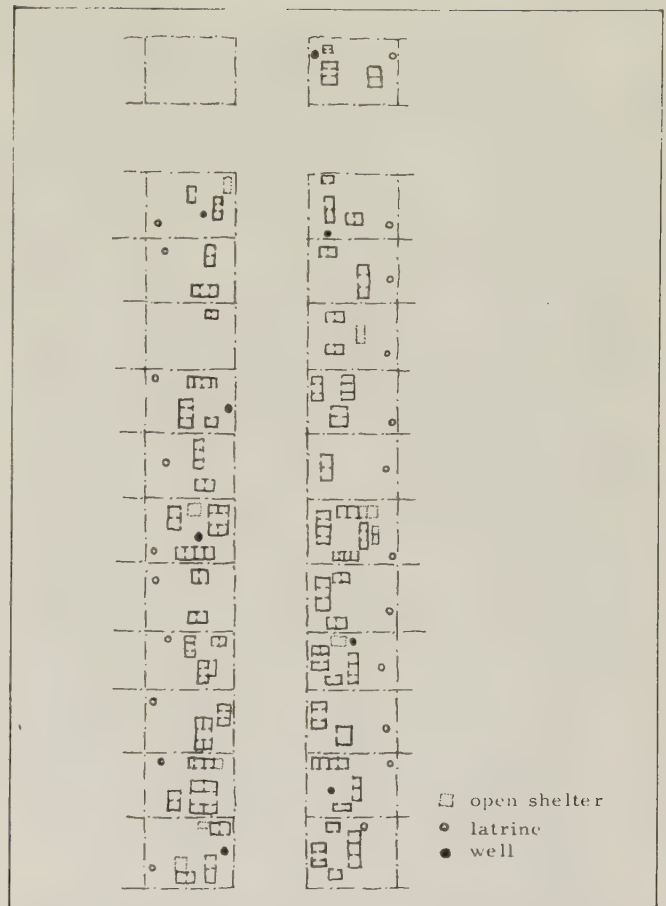
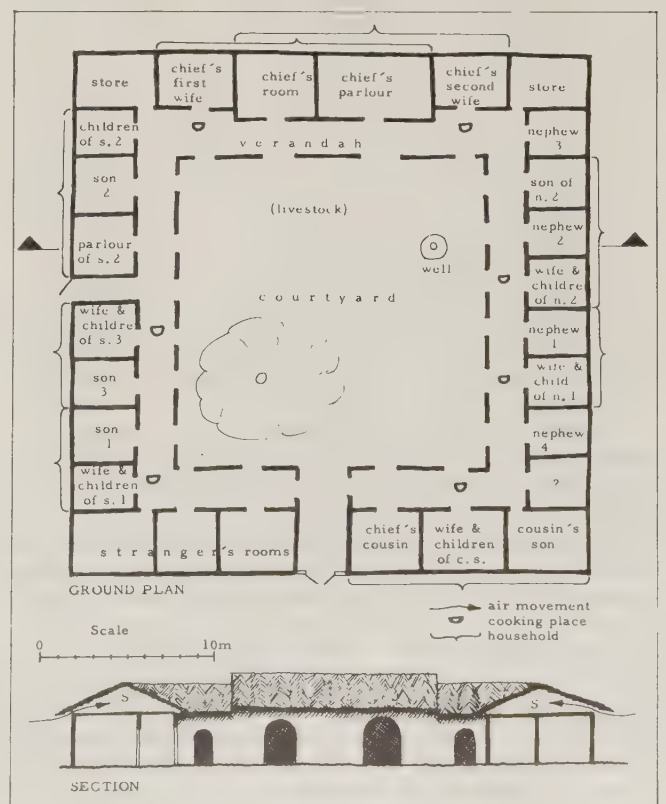


Figure 5:VIII. Grouping of compounds along a street in Brussels housing area in Stanleyville according to description by Pons (1969:129).

Figure 5:IX. Traditional Yoruba compound (Ojo province) reconstructed from descriptions by Lloyd (1955:236-38), Lloyd et al (1967:plate 2b), and Krapf-Askari (1969:56).



of material were introduced. At first bricks were used. Under the hands of repatriated slaves, already skilled in masonry, the walls assumed a form most unlike that of the traditional compound. Almost simultaneously the carpenters made large doors and windows and items of furniture sharply contrasting with traditional types" (Ojo p 152)

A more drastic change occurred when the corrugated iron sheet roof spread all over southern Nigeria at the end of last century, according to Ojo (p 152) because of its quality of being almost perfectly fire-proof. This new buildings were usually completely or partially demolished in order to make way for innovations compatible with the new type of roof (Ojo p 153).

The traditional Yoruba compound was built for a large kinship group usually including several polygynous households. This family system was contrary to the objectives of the colonialists, whose "vanguard" were the Christian missionaries. Ojo concludes that:

"Cultural contact with the early missionaries, who preached 'one man, one wife', shook the foundation of the compound since the logical complement of the doctrine was 'one family, one house'" (p 155) - "Consequently some of the compounds collapsed in parts, detached houses evolving out of them." (p 156)

More important to the disintegration of the Yoruba compound was, however, the transformation of the traditional social formation. This process has been most appropriately described by Mabogunje (1967), who observes that

"the rise of cocoa production for export, with its unprecedented opportunities for accumulating income and wealth over a relatively short period, meant that the hold of the head of a lineage over his juniors was greatly reduced. As a result, increased differences arose in the range of income within a lineage. These differences in income implied differences in social expectations, and a stronger tendency towards individualism. As soon as chances presented themselves, therefore, members of a lineage separated their portions of the compound and transformed them into singlefamily houses. This was a much more manageable unit on which to concentrate the improvements they desired for themselves and their immediate family. Compounds then began not only to break-up but to start to show varying standards..." (p 47)

Thus, despite the fact that the colonial administration did not intervene directly with new development plans in the old Yoruba cities (Muench 1972:53f), the traditional house forms were doomed to destruction. Already in the middle of the 50's "one would have to go to the savanna country of the north of Oyo country to find towns almost completely composed of traditional compounds" (Lloyd 1955:236).

As has already been indicated, the style of the new houses was influenced by the cultural concepts brought by the repatriated slaves. The most dominant influence was that of the Portuguese/Brazilian architecture. As a result the

new houses were called "Brazilian type houses". These houses were most common in those areas where the traditional influence was weakest: in the immigration quarters of the larger cities. The main characteristics were "the flamboyant floral designs on doorways and portals, bas-relief decorations on the lower half of the outer walls, and a verandah in front of the house" (Mabogunje p 50f).

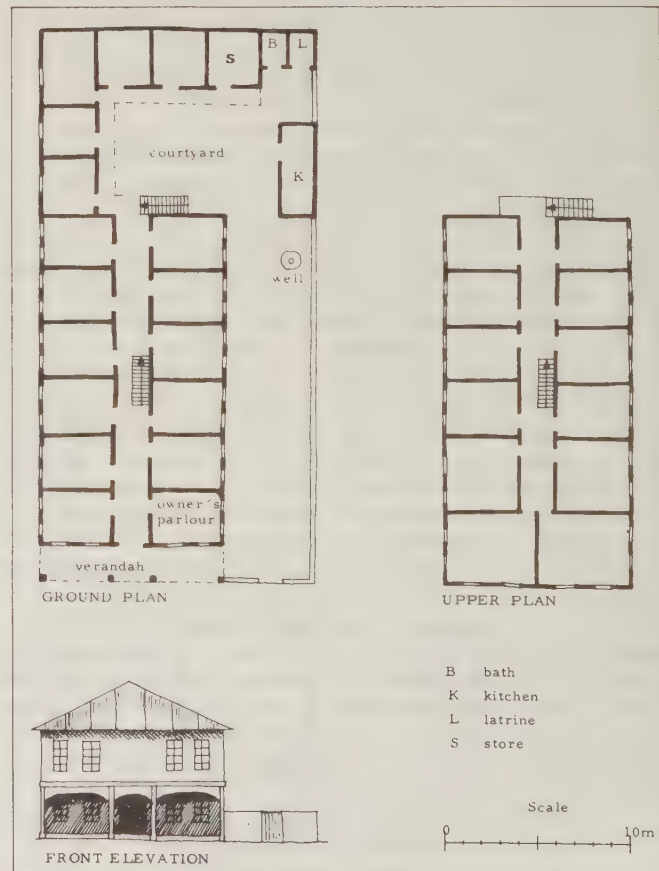
However, the major aspects of the spatial organisation of the new house type were not determined by cultural but by economic factors. According to Okonjo (1967)

"the necessity of squeezing in as much built up spaces as possible in the plots provided, in order to enable the money invested in building to be quickly recovered has led to most buildings being bungalows or one-storeyed houses, with rooms opening out on both sides of a long narrow central corridor." (p 100)

The "Brazilian" type house, an example of which is shown in figure 5:X, has developed from a one-family unit into a tenement house for poor urban migrants (Muench p 42). Usually lodgers rent only one or two rooms, sharing common facilities like kitchen, toilet and the central passage-way, which is reported to function very much like the courtyards in the Yoruba compounds (Muench p 42). According to the same observer the

"system of using a single room as the basic dwelling unit allows a greater flexibility in the housing market; it is relatively easy to gain more space by renting an additional room if incomes or space

Figure 5:X. Modern "Brazilian" immigrant type house of 30 rooms in Ibadan, reconstructed from descriptions by Mabogunje (1967:50), Okonjo (1967:100), and Lloyd et al (1967:pl 3a)



needs increase, and... in Ibadan it allows a great range in choice between space and other aspects of quality." (Muench p 86)

The similarities between this house type and the urban Swahili type house of East Africa are striking. It may perhaps be concluded that the "Brazilian" type house represents a more "mature" form of capitalist tenement housing as construction is more commercialized and land exploitation more intensive than in the case of the urban Swahili type house. Muench mentions (p 43) that in Ibadan standardised house plans can be obtained from a number of drawing offices and that in the "new investment-housing" there is often a second hallway at the back of the compound forming a "T" with the main one, thus increasing building density. The number of stories also increase to three and four, which emphasizes even stronger the economic motives behind the construction of this type of house.

5.9 Is society a system?

When trying to develop a theory about the relationship between shelter and society one must recognise that theories "are more than merely abbreviated summaries of data, since they not only tell us what happens but why it happens as it does" (Kaplan & Manners 1972: 11). With the purpose of explaining certain problems rather than describing certain house types I have tried to trace the causes of changes in house forms (and the non-appearance of expected changes). Compared to such rapid changes as those discussed above, house forms in "primitive" societies might seem static, but no society is really static (cf. Davidson 1973:40), and therefore one can not assume that house forms do not change.

Although Rapoport has a static view of the kind of society he discusses (see section 5.4), he does not disregard changes altogether. In a small section of his book, called "Constancy and Change", Rapoport suggests that in the nature of man and his institutions

"there are both constant and changeable elements. We can say that there are certain constant factors which do not change, and which may have high criticality, but that the specific forms these needs take are culturally linked and changeable - and of lower criticality. For example, the need for sensory stimulation and satisfaction, and hence for visual and social complexity in the environment, seems constant for both man and animals, but the specific forms that provide for these needs may be different." (p 79)

Rapoport also says that old house forms are often superior to new ones and that replacement of old forms is often due to the prestige value of novelty rather than lack of utility (p 78). But why is there a prestige value of novelty? And what kind of novelties are possible? As the "material" determinants of house form - including the basic human needs - do not change, it must be socio-cultural changes that cause introductions of novelties in house forms. If this is so, what causes the socio-cultural changes? Do they occur arbitrarily?

Rapoport wants to avoid "a position of comp-

lete relativism" (p 78), but as far as I can see he does not find his way out. Some who have indicated such a way are David Kaplan and Robert A. Manners in their book "Culture Theory" (1972). They state that one can evade the issue of the relationship between culture and social system "by referring to the phenomena we study as 'sociocultural' and let it go at that" (p 3f), but they demand more. In searching for advancement in anthropological theory they find good reason for regarding society as a system composed of subsystems. It is not sufficient to say that all parts of a society are interrelated, or even that some parts are more interrelated than others. One has to find out whether there are not in fact systematic mechanisms within the complex structure of sociocultural interrelationships.

Rapoport does not trace any such mechanisms. On the contrary, by just showing that house forms may remain unchanged when society changes, and that changes in house form occur without any (visual) changes in society as a whole, he denies a structural relationship between, for instance, social and cultural elements in society. Rapoport's denial of systematic relationships is most clearly revealed in his criticism of what he calls "economic determinism". He says that

"since people with similar economies may have different moral systems and world views, and since the house is an expression of the world view, economic life has no determining effect on house form." (p 34)

A similar kind of criticism is levelled against "technological determinism" (p 24f) which is closely linked to "economic determinism". In his eagerness to reject all kinds of simplistic determinisms, it seems to me that Rapoport lets the baby out with the bath-water. Because, even if economical and technological changes do not (immediately) result in changed house forms, it is evident that they are accompanied, in one way or another, by changes in social and cultural life which in turn either allow for house forms which were previously inconceivable, or necessitate new house forms like some of those we have discussed in this and the previous chapter.

In this context I find Rapoport's concept "freedom of choice" particularly useful. Economical, technological and social changes "produce" cultural changes, not according to any definitely established pattern, but with a certain "freedom of choice" for cultural expressions. Rather than denying that economy and technology determine house form, we must conclude that these systems determine - neither mechanically, nor arbitrarily, but according to a traceable logic - the sociocultural system of society, which in turn determines house form. Such a view implies that economy and technology are not only modifying factors, but also structurally related to the "final" determinants of house form. Kaplan & Manners express a similar view about the relationship between subsystems by saying that

"the technoeconomic components are 'more causal' than the others - that 'normally' and in the 'long run' they are likely to have a greater impact on the personality, social-structural, and ideological systems of a society than the other way

around." (p 160)

Applying these theoretical concepts and those concerning contradictory demands upon house form (see section 5.4) it is also possible to analyse determinants of house form under imperialism. As we have seen in this chapter, imperialism prevents traditional socio-cultural factors from being expressed in house form. Even if a certain "freedom of choice" is given house construction, it is the economic factors which affect designs of houses in the final analysis. Or as one observer puts it:

"Such designs - whether in colonial Africa or industrial Europe and North America - ignored the masses of the people, the labouring classes, in the interest of the economic advancement of the few."
(Vincent 1970:152)

In a class society the needs and aspirations of a ruling class might determine house form to the detriment of the ruled classes. The aspirations thus suppressed might have to find other expressions: for instance, in myths and unrealistic dreams. Seeing house form as alienated from the aspirations of its inhabitants, the "irrational" functions of the house, exemplified by Rapoport, may also be rationally explained.

When Rapoport discusses the possibility of applying his theory for popular architecture to "modern" architecture he does not make these distinctions and therefore his presentation assumes a strong touch of mysticism. He points out that both in "modern" and "traditional" societies "utilitarian functions of the house are not primary" (p 129), but he does not try to find rational explanations to the non-utilitarian functions.

6 Does house form affect social life?

—Some basic assumptions

So far I have almost exclusively discussed how society affects house forms. Although certain factors within society have been described as dependent on other, "more causal" factors, society as whole has been regarded as the independent variable in relation to house forms, which have been regarded as the dependent variable. But just as one may advocate a "limited technoeconomic determinism", which may be "tempered by ideology, tempered by social structure, and, sometimes even tempered by personality" (Kaplan & Manners p 161), one may ask whether society is not in fact also tempered by its house forms.

In the discussion in chapter 5 about house form and family system it was indicated that a house form adapted to the hot and humid climate may prevent the establishment of the Muslim family system. Other examples (sections 3.3 and 5.7) showed how the colonial administration used housing to impose the monogamous nuclear family system upon the colonized peoples. These examples seem to imply that house forms may exert a decisive influence upon society.

In studies of relocation schemes, like those made by Marris (1961), Amartefio et al (1966) and Laporte (1969), it is clearly shown that changes in the physical environment are accompanied by changes in social aspects like family structure, neighbourly contacts etc. Relocation usually means that all parts of a physical environment are replaced. Usually it also means that distances to work places and to friends and relatives are changed, and that new tenurial relationships and economic situations are introduced to the household, which in turn means that it is difficult to establish exactly how built forms affect social life.

To be able to study in more detail how built forms affect social life it is necessary to find a situation where the spatial influence upon social life can be isolated from other factors. It is also necessary to define what aspects of physical environment are assumed to be related to what aspects of social life.

6.1 The cause/effect relationship

Now, if society affects house forms at the same time as house forms affect social life, what is cause and what is effect in this relationship? I think that this problem is best explained by seeing the relationship as a dialectical process in which the causal factor operates at different levels simultaneously. More concretely this could mean that when a new type of behaviour emerges in society (as a result of changes in, for instance, the "more causal" technoeconomic system) new demands are

raised upon house form, which, if satisfied, leads to the establishment of new house forms, which in turn affect human behaviour. And as a new pattern of behaviour emerges (and perhaps "tempers" the technoeconomic system) new demands are again raised upon house forms, etc.

This theoretical model can be further complicated by assuming that if a new demand upon house form is not satisfied, frustrations will arise so that, instead of affecting house form, another aspect of behaviour is affected. This situation may be characterized as a form of alienation between man and his dwelling.

It is easy to oversimplify the effects of the physical environment upon human behaviour. An environmental determinist view is expressed by Marris (1961) when he states that "the design of a house, the layout of a street, mould social behaviour, and influence very directly the way in which people live" (p IX). Similar views have been expressed by Festinger et al (1950), Rosow (1961) and others. In contrast to this view Vere Hole of the British Building Research Station suggests that

"Man's behaviour, however, involves a highly complex interaction between the physical environment (natural and man-made) and technology on the one hand, and his social organisation and social values on the other. Except in the sense of imposing certain limitations, the physical environment and human behaviour cannot be viewed as a simple cause and effect relationship." (Hole 1968:3).

If the relationship is not simple, just how complex is it? Some researchers who have studied this relationship at microlevel are H.M. Proshansky, W.H. Ittelson and L.G. Rivlin, who base their theoretical explorations on observations of psychiatric wards in the USA. In one of their articles (Proshansky et al 1970) they present their conclusions about the relationship between physical environment and human behaviour in 13 assumptions, some of which I consider to be relevant to this study.

First of all Proshansky et al confirm what has already been said above by stating that

"how and for what purpose individuals use space is by no means a simple reflection of the functional nature of that space determined either by its physical design or its administrative 'label'". (p 30)

They find that human behaviour in relation to a physical setting reveals both consistency and variability over space and time. As human beings are parts of the environment and as any given physical setting is always part of a larger physical setting

"behavior in relation to a physical setting is dynamically organized: a change in any

component of the setting has varying degrees of effects on all other components in that setting, thereby changing the characteristic behavior pattern of the setting as a whole." (Proshansky et al 1970:32)

Although the reports from the studies of Proshansky et al were not available at the time of planning the field study in Dar es Salaam, I was well aware that the cause/effect relationship was not a simple one. Therefore I tried to formulate the basic assumption so as to avoid the pitfalls indicated above.

6.2 The basic assumption

With the purpose of specifying a number of workable assumptions to be discussed in the light of a quasi-experimental situation in Dar es Salaam the basic assumption was formulated like this:

There is a correlation between house form and social life in the house.

In this assumption nothing is said about what is cause and what is effect in the relationship, only that the form of the house is somehow correlated with what has been called "social life" in the house. To be able to deduct sub-assumptions from this basic assumption it is necessary to scrutinize the concepts used.

The term "house" implies that it is not physical environment in general which is to be studied. Although one has to agree with Proshansky et al (1970) that "any physical setting... is part of a larger and more encompassing physical setting, which it therefore influences and is influenced by" (p 31), it is necessary to restrict a field study to a limited part of the physical environment. In accordance with the discussion in chapters 4 and 5 the assumption is constructed to restrict the study to domestic buildings only. Referring to what is said below the term "dwelling" is considered to be the most appropriate one.

Concerning the concept of "form" it is not so clear what this term denotes. Amos Rapoport uses the term "house form" in a rather loose sense, including the grouping of houses, building materials, construction techniques and interior furnishing of rooms. None of these aspects can be assumed to be completely without significance to social life, but it seems to me that building materials and construction techniques as such are considerably less important than the other aspects. The discussion can not be restricted to the forms composed of walls, floors and roofs only. It seems reasonable to include spaces surrounding the house, furniture, and comparatively immobile household equipments, which divide space within the rooms. I suggest that the term "dwelling space" should be used in order to cover all these aspects. Furthermore, it seems evident that it is not the character of each individual piece of dwelling space which is of greatest significance, but the way in which the various spaces relate to each other: how space is organised. Thus the basic assumption can be rephrased in the following way:

There is a correlation between the organisation of dwelling space and social life in the dwelling.

In building functional studies a common assumption is that any human activity requires a specific amount of space. I suggest that this should be called living space in order to distinguish it from dwelling space, which is the space actually provided and which can be measured on a plan. If a building provides adequate space for the activities performed in it, it is often said to be "functional". The term "functional space" is used to illustrate that there is a congruence between the two types of space.

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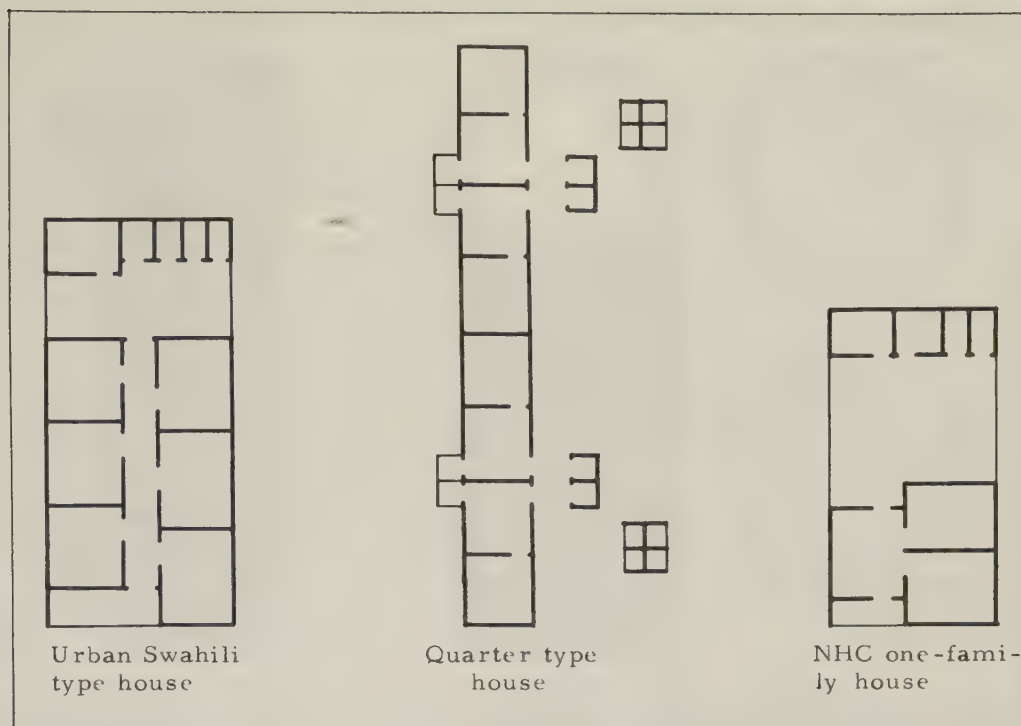
Above the non-spatial component of the relationship has been described in greatly varying terms: "society", "social structure", "behaviour" etc. In the discussion in the previous chapters about how society influences its house forms I have tried to show that society is a system, in which the socio-cultural factors have a more direct influence upon house form at the same time as these factors are dependent on the "moral causal" technoeconomic structure. Similarly it can be assumed that the organisation of dwelling space is more directly linked to certain aspects of society.

It is obvious that a change in the organisation of dwelling space has a direct influence upon the way in which people move around in these dwelling spaces. It is trivial, for instance, to show that the use of the corridor in an urban Swahili type house is more intensive in cases where the doors of the private rooms face the corridor than in cases where they face the side of the house. However, what makes the subject interesting is that the organisation of dwelling space also affects other, more fundamental, aspects of human behaviour. It is usually assumed, in studies within the field of building function analysis, that also important aspects of social life are affected.

In a UN report called "Social Aspects of Housing and Urban Development" (Wood 1967) it has been pointed out (p 4) that the word "social" is mostly used in a rather imprecise way. Often "social aspects of housing" are assumed to indicate all aspects which are not purely technical (e.g. Misra 1969a). In many studies within the field of building function analysis it is implicitly or explicitly assumed that it is human behaviour which is most directly linked to the organisation of dwelling space. But "human behaviour" is also an imprecise term. It might be understood to include family system, neighbourly contacts, desires and attitudes as well as use of space and body movements.

Behaviour is often seen as a form of "response" to space. This assumption is made by Hall (1966b), Oliver (1969) and a number of researchers studying the problem of crowding (presented in Dahlman 1973:8). In an

Figure 6:I. Ground plans of the three house types studied.



attempt to be more precise some of these researchers have applied the term "spatial behaviour", denoting those aspects of behaviour which are linked to spatial arrangements. Dahlman asks (p 8) whether spatial behaviour should be seen as a natural or a cultural phenomenon and suggests that it should be seen as natural responses subjected to considerable cultural conditioning. The fact that behaviour in relation to space varies in different cultures has been pointed out by several observers like Hall (1966a and b), Hole (1968) and Oliver (1969:26), but this also implies that spatial behaviour cannot be seen only as a response to spatial organisation and, thus, that the reason for distinguishing spatial behaviour from other types of behaviour remains unclear.

As I think that the subject would not be worth studying unless it concerns relations between people I want to concentrate my attention to this aspect. My efforts are, thus, focussed on family and neighbourly relations. However, other aspects of human behaviour, like attitudes to one's housing situation, use of space and crowding experience, are also included in the concept of "social life".

The basic assumption is to be divided into a number of sub-assumptions, which specify some aspects of social life for investigation, but this can be done only when the nature of the organisation of dwelling spaces in the three house types is analysed and classified according to relevant principles. The relevance of these principles is determined by the main assumptions about the three house types.

6.3 Main assumptions about the three house types

When considering the ground plan of the three house types presented in figure 6:I it seems evident that they represent three distinct principles of spatial organisation. But which are these principles? I think that the

most interesting aspect is the degree of collectivity.

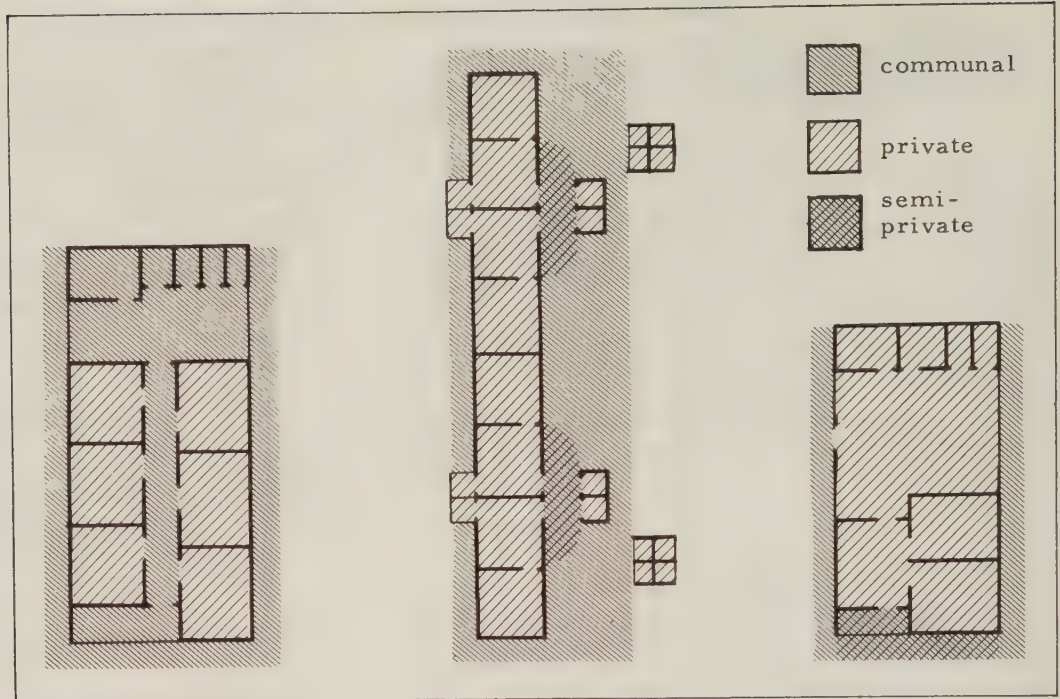
In the urban Swahili type house the verandah, the corridor, the backyard, the kitchen, the latrine, the store room and the wash place are all communal, meant for all the occupants of the house (but only for them). This is illustrated in figure 6:II. The doors of the rooms usually face the corridor, which can be closed by a door at each end. The private rooms are most often occupied by one household per room, which means that the private sphere of each household is located in close proximity to the private sphere of other households and to the communal spaces. It is difficult to define intermediate spaces in the corridor or at the side of the house, which could be said to "belong to" an individual household. I assume that communal life tends to intrude upon life in the private rooms. This problem can be expressed as follows:

Main assumption A: The spatial organisation of the urban Swahili type house imposes a comparatively high degree of interdependency between the occupants.

I think that the urban Swahili and the Quarter type houses are similar in the sense that the kind of interdependency imposed by the households living close together is the same, while the kind of interdependency imposed by the spatial organisation (common entrance, sharing of facilities) is different in the two house types.

In the Quarter type house each household has its own verandah, its own entrance, its own kitchen and its own latrine, to which no other household has access. However, the individual kitchens and latrines are located in a communal yard formed by four houses as shown in figure 6:IV, which means that there is no such clear division into private and communal dwelling space as in the case of the urban Swahili type house. The space between the back door and the kitchen is probably not

Figure 6:II. Division into private and communal dwelling space in the three house types.



regarded as communal in the same sense as the rest of the space in the back yard. It is therefore denoted "semiprivate" in figure 6:II. Obviously the degree of privacy of this space may vary with the nature of neighbourly relations in the house. An individual household may arrange this backyard area so as to emphasize its private nature, but the interesting point is that its use permits neighbourly contacts. This may, with a slight variation, be formulated as follows:

Main assumption B: The spatial organisation of the Quarter type house permits a comparatively high degree of freedom of choice between private and communal life.

*

The NHC one-family house (as shown in figure 6:I) has a backyard with an outbuilding, which is meant exclusively for the occupants of the house. The high walls around the backyard prevent visual contacts with the outside except through the door, which usually faces another solid wall a few yards away (see figure 6:V). Thus life in the backyard (including household work) cannot easily be combined with neighbourly contacts. The only dwelling spaces where this is possible - provided that there are some neighbours to be seen - are the verandah and perhaps the area immediately in front of the house, which have therefore been classified as semi-private (figure 6:II). This situation can be expressed as follows:

Main assumption C: The spatial organisation of the NHC one-family house is such that it isolates the household from neighbouring households.

*

The division into private and communal dwelling space as shown in figure 6:II is not based on studies of life in the three house types, but on analyses of the ground plans.

Therefore the drawn divisions must be regarded as assumptions which could be tested in reality. I consider these assumptions to be implicit in main assumptions A, B and C presented above. Concerning use of the different kinds of dwelling space, see section 10.7.

The extent of communal space around each house is arbitrarily drawn and must not be taken as a precise measure. It can be defined only by studying the grouping of the respective house types. In reality the grouping may vary from place to place. The most typical groupings are shown in figures 6:III-V.

Concerning the privately built urban Swahili type house, shown at the top and the bottom of figure 6:III, it can easily be seen that the communal dwelling space varies from house to

Figure 6:III. Typical grouping of urban Swahili type houses. The plan is made on the basis of the typical plot size of Kariakoo, but also in spontaneously developed areas the houses are often placed in rows, although not according to a grid-iron street pattern. Note that the standardized NHC houses (centre) are mixed with privately built urban Swahili type houses (top and bottom).



house, depending on the location and form of outbuildings, walls around the backyards, neighbouring houses etc. Concerning the NHC urban Swahili type house, shown at the centre of figure 6:III, the division of space can be defined more easily as the house plan is standardized. However, in this case there might also be variations in the communal dwelling space, as the depth of the backyard and the width of the strips between the houses vary with the dimensions of the plots. Often the plot boundaries are not marked by fences or otherwise.

In cases where a house is occupied by only one household the division of space will be similar to that in the NHC one-family house. In accordance with the distinctions made in section 4.3 such a house is not defined as an urban Swahili type house.

A typical grouping of the Quarter type house is shown in figure 6:IV. It seems obvious that the communal character of the quadratic yards is different from that of the communication routes, towards which the verandahs face, but nevertheless they have both been classified as communal, because they do not belong to any individual household.

In the case of the NHC one-family units, a typical grouping of which is shown in figure 6:V, the plot boundaries divide the strips between the houses so that, legally, this dwelling space should be regarded as private, but in practice, these boundaries are not marked by fences or otherwise. Thus I consider the dwelling space around the house communal, although it is doubtful whether it is used much for communal life.

6.4 Different types of dwelling spaces

In the discussion above, the term "private" is used to indicate "private for the household" and not "private for the individual". Thus, the definition of private dwelling space is dependent on the definition of the concept of "household". In accordance with Rossi (1955:15f), Southall & Gutkind (1957:128) and Marris (1961:169) I define a household as a group of persons who live under the same roof, who eat together and who share the housekeeping expenses. A single person may also constitute a household. In my sample there is one household living in two adjacent houses, but nevertheless it has been classified as one single household.

All dwelling spaces which do not belong to an individual household have been characterized as "communal". It might be interesting, however, to distinguish between various types of communal dwelling spaces, for instance, between dwelling spaces communal to the people in the same house and those communal to people from several different houses.

In the NHC one-family units such a distinction coincides with that between private and communal dwelling spaces as there is only one household living in the house. The relevance of the distinction only becomes apparent when applied to the urban Swahili type house. In this house type the corridor, the backyard, the outbuilding and the verandah are communal only to the occupants of the same house, while the spaces around the house could be considered

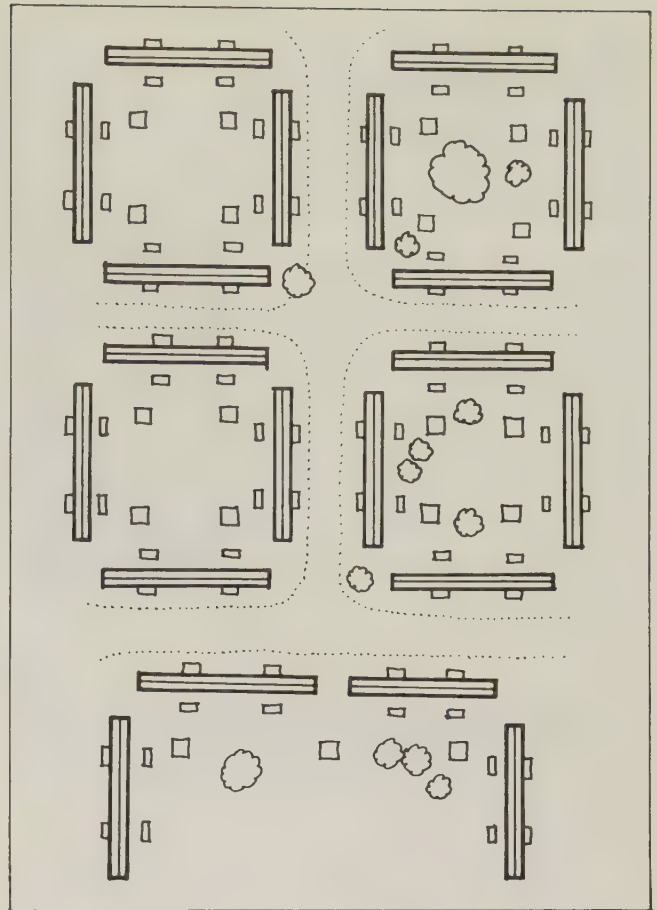


Figure 6:IV. Typical grouping of terraced Quarter type houses. Four houses of altogether 16 households enclose a quadratic yard.

Figure 6:V. Typical grouping of the NHC one-family units. The different types of one-family units are usually mixed.

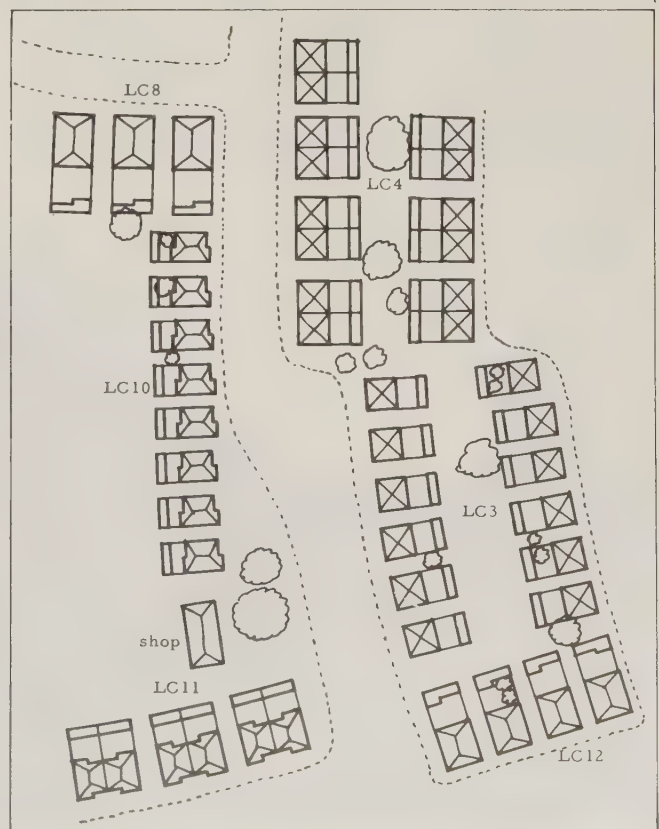
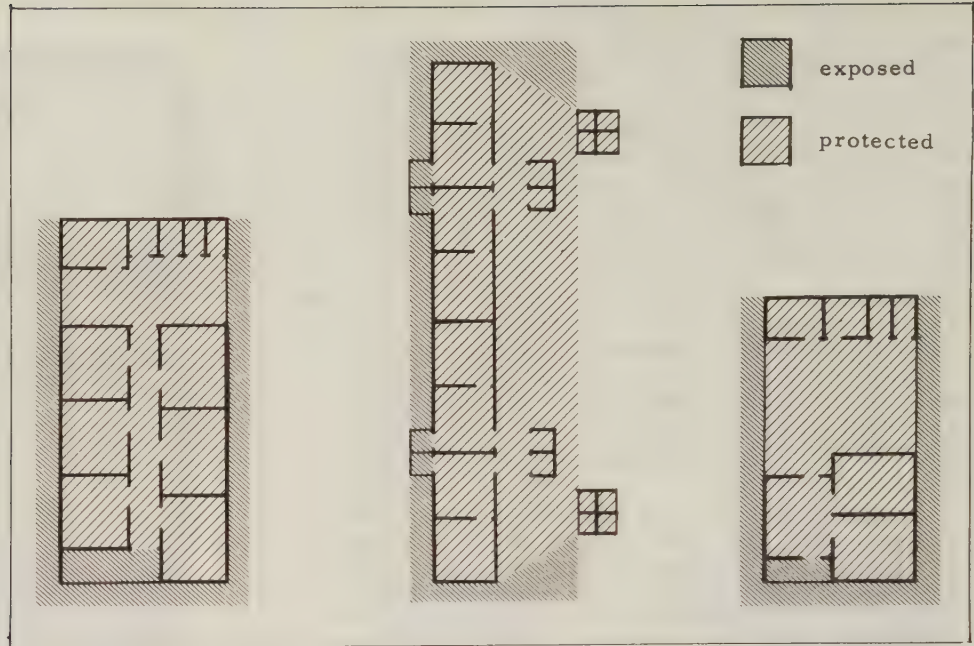


Figure 6:VI. Division into dwelling space protected from insight and exposed to the outside in the three house types.



as communal for several adjacent houses.

In the Quarter type house it is not so easy to define which dwelling spaces belong to the house (consisting of four household units) and which belong to several adjacent houses. Is it correct to regard the house as a social unit? The Dar es Salaam Master Plan team indicates that it is the quadratric yard which constitutes a unit:

"The activity of the central area encourages an extremely diverse social unit, which, because of its introverted aspect, develops social ties between the residents. --- In the spaces formed, we find room for spontaneity. Small shambas, outdoor cooking areas, enclosures for chicken raising and children's play areas all exist together. Intense use is made of every inch of ground. Activities are encouraged rather than stifled." (Master Plan TS 3 1968:31)

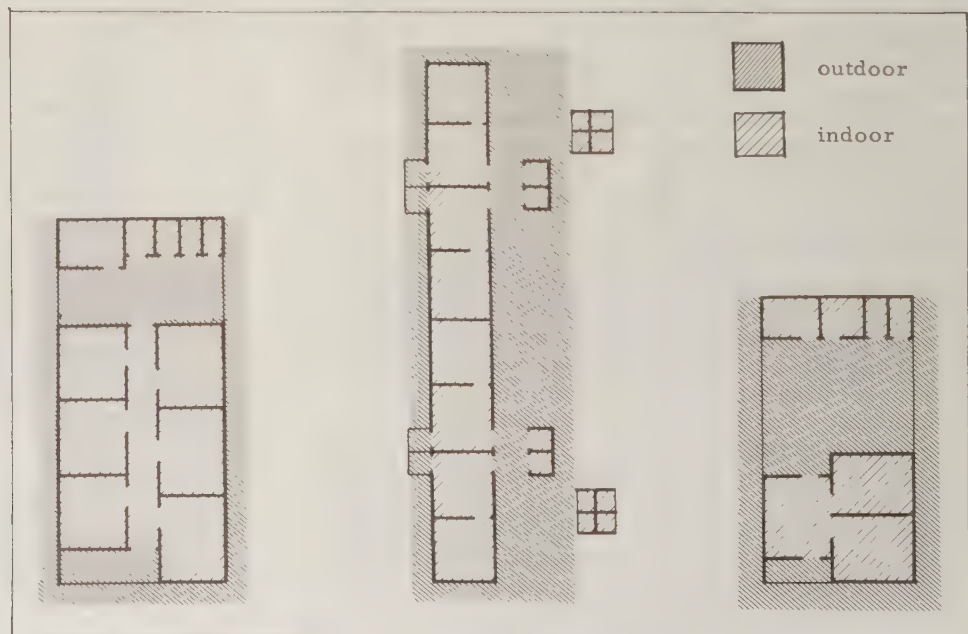
No evidence is supplied to substantiate this obviously rather subjective impression. In ac-

cordance with main assumption B I find it more logical to assume that there is a freedom of choice concerning social contacts, both between houses within the same yard and between different yards. I take this to be implicit in main assumption B. Thus, it seems irrelevant to distinguish between dwelling space communal to the households in the same house and dwelling space communal to several houses, in case of the Quarter type house.

*

A distinction which seems more relevant and which can be outlined somewhat more easily is that between dwelling space protected from insight and dwelling space exposed to the outside. It can be maintained, for instance, that household work and certain other parts of family life are regarded as acceptable to perform in communal spaces, which can be seen only by familiar neighbours (i.e. those in the

Figure 6:VII. Division into outdoor and indoor dwelling space in the three house types.



same or adjacent houses) but not in spaces exposed to just any foreigner.

Assuming that such a distinction between neighbours and foreigners can in fact be made and that the respective house types face public streets as illustrated in figures 6:III-V, the dwelling space of the three house types can be divided as shown in figure 6:VI. There the verandahs are illustrated as exposed dwelling spaces, while the backyards are considered to be protected from insight. In the case of the Quarter type houses I think that the area immediately behind the house is protected from insight while the rest of the quadratic yard, especially the area close to the corners, is exposed to the outside. The borderline between the two types of spaces is, of course, not as well defined as in the case of the urban Swahili type house and the NHC one-family unit.

6.5 Climate and dwelling space

In the analysis of the respective house types in chapter 4 it was pointed out that the Swahili type house is unsuitable to the humid climate existing along the coast, while the Quarter

type house was described as almost ideal in this respect (section 4.8). This difference could be expected to result in differences in the use of space in the two house types. It seems reasonable, for instance, to assume that certain activities which people would have preferred to perform indoors, are placed outdoors because of the intolerable indoor climate of the Swahili type houses.

The division into outdoor and indoor dwelling space in the three house types is shown in figure 6:VII. As the accessibility of the cooling breeze has been regarded as the most important aspect, the verandahs have been classified as outdoor spaces, although they are often enclosed on all sides except one. In fact it is probably cooler on the verandah than in the enclosed backyard of the Swahili type house.

It is necessary to study whether the outdoor dwelling spaces are in fact more comfortable from a climatic point of view than the indoor spaces. The existence of shade and air movements in the outdoor spaces should be investigated. As distances between indoor and comfortable outdoor dwelling spaces and the possibility of privacy and social contacts might also affect the use of outdoor dwelling space, these factors should also be considered.

Figure 6:VIII. Swahili type houses along a street in Bagamoyo



7 The participant observation study

The traditional method of studying "foreign" cultures is to use anthropological techniques. These techniques - particularly relevant in rural situations - have clear limitations in stratified and rapidly changing urban conditions, but they may also be used here. In a report from a conference of social scientists working in colonial Africa at the beginning of the 1950's, anthropological methods were considered useful in urban areas because they

"provide qualitative data based on intensive 'free' or 'open' interviews combined with participant observation over a relatively long period. In practice, because of the complexity of urban life, most of those who have done intensive research in this sphere have found it necessary to combine social surveys with qualitative studies." (UNESCO 1956:55)

In the case of this project participant observation was planned as a formulatory study, providing the basis for specifying the assumptions in the observation and interview studies. This procedure has been strongly recommended by K.E. Knutsson:

"In order to be able to formulate relevant questions and devise efficient controls, considerable advance knowledge is required about the society to be investigated. The application of a questionnaire technique thus encounters great difficulties before the anthropologist has obtained the amount of knowledge this method requires as a basis for inquiry." (Knutsson 1966:32)

When clarifying the problems of housing and social life in Dar es Salaam a lot of useful ideas could be obtained from Leslie's survey of 1956, but it was not sufficient for the purpose of this study. Although his descriptions of the Swahili type house, as well as those of other house types, are detailed and vivid, Leslie's interest did not primarily concern spatial aspects. It was also difficult to use his writings as something more than ideas, because no discussion of representativity is presented, not even in the preliminary manuscript (Leslie 1957), of which his book (Leslie 1963) is a part. Although his survey comprised statistical processing of data from a huge sample, his presentation of findings is strikingly non-statistical.

7.1 The problem of finding a room

In order to carry out the participant observation study it was necessary to find a vacant room in a suitable area. During the formulatory part of the study it would not be possible to live in all the three house types to be investigated. I decided to concentrate on the urban

Swahili type house because this house type seemed to be more problematic and the cause of more controversy, but also because I realised that it would be easier to find a room in such a house type. In accordance with main assumption A I estimated that this house type would offer better opportunities for participation.

I did not want to ask the NHC to allot a room for me, but instead I decided to try by myself in order to learn more about the housing market and, if possible, avoid being regarded as a representative of the authorities in the eyes of the people in the house.

I started my search for a room by approaching some low-salaried government employees. After some time I got in touch with a young man who was willing to let his room while he worked up-country for a year. He had a room in a NHC Swahili type house in Ilala with an absentee landlord. The young man thought there would be no problems for me to be accepted as a tenant, but when we visited the house owner (together with the owner's son, who was also living in the house) he and his two wives made strong objections. According to the son, his parents did not like the idea of having a Christian, "who would eat pork in front of the other (Muslim) tenants", in the house. However, my promise not to eat pork in the house did not change the attitude of the owner.

Then I met Mohamed Vikindu (fictitious name), living in a privately built Swahili type house in Magomeni. He started to look for a room and only a few days later said he had found one for me. The house was just being finished under the NHC slum clearance scheme, while the owner lived with his wife and six children in a mud-and-pole three-roomed house in another part of Magomeni.

The house owner was a Christian from up-country who had come to Dar es Salaam in 1949. He had a medium-salaried clerical job in a government office. According to Mohamed the house owner did not inquire much about me when asked to let me a room. When I first met him I explained briefly the authority and purpose of the research project. The house owner appeared not to be interested in any details. He revealed no hesitation to accept me as a tenant and said I could move in as soon as he got the keys from the NHC. I doubt that he could have regarded me as just a normal tenant, but still I don't think that I was accepted for economic or status reasons, because the owner seemed all but status conscious. He spent most of his free time with his friends in Magomeni and did not move to his new house until just before I moved out.

The house, which was of the LC 8 (six-roomed) type, had been built on the plot of the

Figure 7:I. The NHC urban Swahili type house in which the participant observer lived for six months in 1969.



demolished mud-and-pole house, retaining the old latrine pit when constructing the new out-building. The house had an address, but the street sign was almost invisible and - like most other houses - the number of the house was missing (see figure 7:I). There was no water or electricity in the house, but we were informed that these facilities would soon be installed. I was assigned the room facing the verandah, one of the two rooms with cross-ventilation.

*

From the time I started to look for a room it took only two weeks until I found a house owner who was willing to accept me. However, as the house was not completed (a few things were to be fixed in the backyard) and as the house owner seemed not to be in a hurry to pay for the keys, it took five more weeks before I could move in.

I was to pay shs 30 per month for the room, which is the legally accepted price for a room in a NHC urban Swahili type house. The house owner made no attempts to charge a higher price, and he did not demand any special favours from me. In fact, I met the house owner very seldom.

I got the impression that, when looking for a room to rent in Dar es Salaam, it is the normal thing to ask one's friends for assistance and to go around making one's own inquiries. No doubt it was seen as very strange that a European wanted a room in a "third class" housing area, but my explanations seemed to be accepted by almost everybody I talked to. As my presence in a Swahili type house evidently would call attention to the house and its owner, it probably required a certain amount of courage to accept me as a tenant. I don't think, however, that I was exceptionally lucky in finding a room. There were at least three other cases of European students being accepted in Swahili type houses when I was in Dar es Salaam.

It is impossible to draw any general conclusions about the conditions of the housing market in Dar es Salaam from the limited experience described above. I think that my method

of obtaining a room might have assured my co-occupants and neighbours that I was not a representative of any government body. From conversations and from what they saw of my work, my co-occupants knew that, although the NHC and the University sponsored the research project, I was not employed by them.

7.2 My neighbours and co-occupants

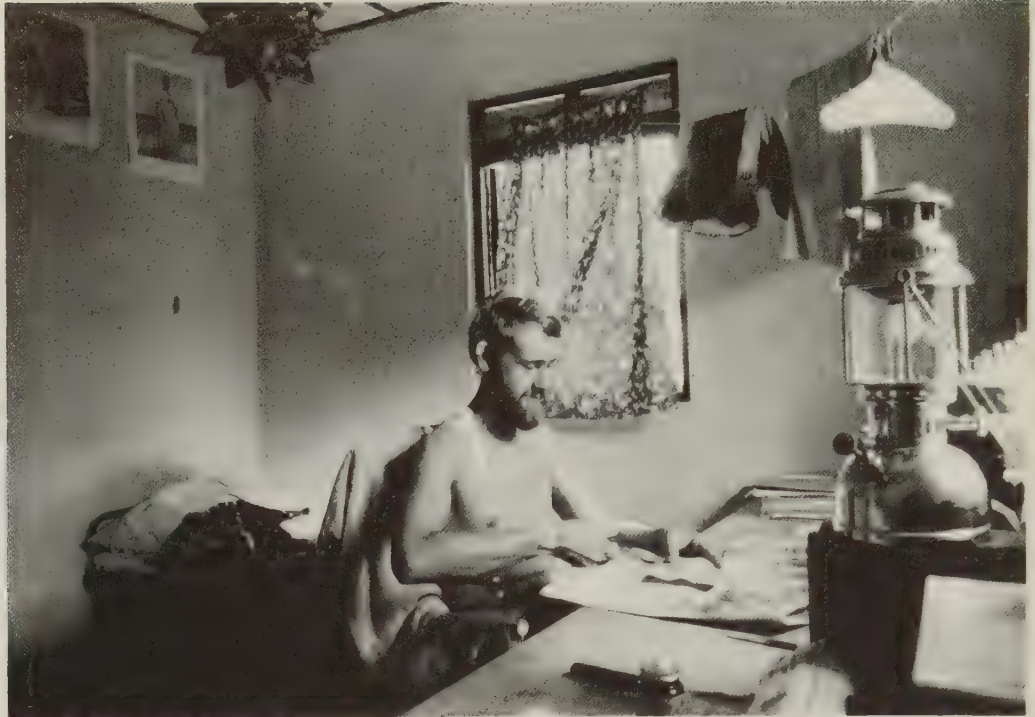
I was the first tenant to move into the new house. The house owner entrusted me with three keys: one for the entrance door, one for the latrine and one for my room. (There were two more which I did not need: one for the kitchen and one for the store.) The room key turned out to fit five of the six rooms, which the owner regarded as a mistake. He said he would complain to the NHC, but no locks or keys were ever replaced during my stay in the house. Thus we could enter each other's rooms. I bought my furniture in the Kariakoo market, but I did not try to furnish my room according to any typical pattern. On the contrary, it was rather atypical as it was equipped for office purposes (see figure 7:II).

When I brought my things into the house, the neighbours showed a great deal of curiosity and I later found out that some of them had made inquiries about me. According to Mohammed, who was one of the few persons they could ask, nobody remained suspicious when he explained that I was a "mwalimu" (teacher) of the University, studying the life of the people of Magomeni.

I did not introduce myself to the neighbours in any systematic way when I moved in (I did not know enough Swahili). Most of the people in the surrounding houses became "nodding acquaintances", only exchanging the normal greetings. One woman from the house next door came to look at my room a few times and she probably informed the other neighbours about what she saw. The owner of the house next door (other side) invited me for tea the first morning after my arrival and he visited me regularly all the time I stayed in Magomeni.

A few other (English-speaking) men along the road came now and then to see me. A num-

Figure 7:II. Room of the participant observer furnished for office work.



ber of young men came to ask me for employment, but it was through Mohamed that I got in touch with those who were later employed for the observation study. The observers lived in different parts of Magomeni and I paid frequent visits to two of them. I also visited many of Mohamed's friends all around the city.

*

The next to move into the house was Mohamed, his baby and his wife (called "Mama Abdul" after her first-born). Mohamed, who was a low-salaried government employee, told me that he wanted a bigger room to accommodate his huge radio-grammophone, which he had received as a gift a long time ago. In the meantime the radiogramophone had been kept with a brother of Mohamed's in another part of Magomeni. The house owner did not want to give him one of the larger rooms (13 compared to 11 m²), but nevertheless Mohamed decided to move into the new house. This decision surprised me as Mohamed already had a room in a house just a few blocks away. To be sure, that house was a mud-and-pole one, but it had a private water tap and the rent was lower.

Mohamed had interrupted his secondary school education up-country and moved to Dar es Salaam for employment. At 26 he married a girl of 16 from another part of the country. They were Muslims but observed few of the Muslim obligations. They had married according to the Muslim practice, Mama Abdul covered her head when she left the house, and she wanted the Muslim sheikh to judge once when she had quarrelled with her husband, but otherwise religion seemed not to be taken seriously by them.

Mohamed had been living in many different houses in Dar es Salaam, most of which were of the Swahili type. Besides the brother, who had the radiogramophone, Mohamed had a "rich" brother with two wives and a big house not far from Magomeni. The three brothers

visited each other regularly, but Mohamed said that he did not want to be dependent on them. Mama Abdul's parents lived in a mud-and-pole house in the outskirts of Dar es Salaam. As there was no public transport to her parents' place, and as Mama Abdul had a partly paralyzed leg (preventing her from walking long distances), she relied entirely upon private car owners, who could drive through the rough terrain, in order to visit her parents.

One could say that I was "adopted" into Mohamed's family. I had meals with them during the six months I stayed in the house and we talked almost every day, about all kinds of things. The first time I saw Mama Abdul, she hardly dared to look at me, but after a short time she did not hesitate to ask me for favours or even poke fun at me. From her I learnt most of the Swahili I absorbed during my stay in Tanzania.

*

Third to move into the house was a young woman who was said to have divorced recently, and whose children were living with their grandparents in the Western part of Tanzania. At 19 she was pregnant for the third time. She had a job at a factory in the industrial area along Pugu road. I was later informed that she was given a room in the house through a relative, who lived across the street and who had been guarding the house (against burglars) for the owner during the construction period.

None of us noticed when the employed woman moved into the house, and she managed to live there several days before we actually saw her. She came home after sunset and sneaked in through the back door into her room, which was furnished with only one bed and two plastic chairs. Only several weeks later we started to great each other and finally she even joined our common meals from time to time. During the second half of the observation period she came regularly to type her letters on my type-writer. Just after I left she bore her

third child. Her other children came to join her. What she lived on, after terminating her employment, I never found out.

*

The house owner, who paid frequent visits to his new house, hesitated to move in. One reason for his hesitation seems to have been that he had a certain affection for his mud-and-pole house, with a private yard, shaded by a big tree. The prospect of making money from letting six rooms in the new house apparently did not cause his hesitation as he accepted none of the many applicants who asked for a room in the house.

The house owner said several times that he would soon move in, but he kept postponing it until a few weeks before I left the house. I had several brief conversations with him, but I did not learn to know his large family until the field study was almost finished. Their presence in the house would have made the social situation more typical of that in urban Swahili houses, but it would probably also have prevented me from using my room as a study (too much noise).

Only several months after the house was finished did tenants move into the remaining rooms. One room was let to a friend of the house owner, who had come temporarily to Dar es Salaam for a training course at a hospital laboratory. Another room was let to a relative of the house owner, a young man who participated in an educational course in a government office. These two men spent very little time at home. They had all their meals in town and came home only to sleep or rest. They were often invited to join our common meals, but they always declined. The older man never entered my room, while the younger one came in now and then to borrow a book or to have a chat. I never visited their rooms, but I knew they were sparsely furnished.

Thus, only three rooms were occupied

during the first part of the participant observation period. Just before the house owner moved in there were only seven persons in the house. Besides myself, only the baby and its mother stayed home during the day time. This permitted me to work relatively undisturbed in my room, but prevented me from observing a more normal social situation in an urban Swahili type house.

However, for some weeks before I left Magomeni I experienced really crowded conditions in the house. The owner, whose family had in the meantime increased to nine, came to occupy the empty room and the room of the young relative. I did not find out how these ten people managed to find sleeping space in the two rooms of about 12 m² each. At the same time the wife and child of the owner's friend also came to live in the house. Before Mohamed and I moved out, there were 22 persons living in the house, 12 of whom were children.

7.3 The daily routine in the house

Before the house owner moved in, a typical day in the house would be as follows:

5 a.m. The cries of the first praying hour of the little mud-and-pole mosque (figure 7: III) behind our house awaken the single woman, who has a long way to her job, which starts at 7 a.m.

6-7 a.m. The three men in the house wake up, wash themselves and leave for their respective jobs, one by bicycle and two by bus. None of them have breakfast before leaving, not even a cup of tea. Mama Abdul gets up, takes care of her baby and starts doing some house work. She cleans the dishes from last night's supper, sweeps the floor, makes the beds etc.

ca 8 a.m. I have breakfast with Mama Abdul and the child on the floor of my room. She finishes possible remains of last night's supper.



Figure 7:III. A Swahili type mosque in Magomeni, decorated with coral stones.

8.30 a.m. - 2.30 p.m. Mama Abdul plays with her child, rests and does some domestic chores. When the baby goes to sleep, she takes a scoop and a bucket of water from her room and goes to have a bath in the "bath room". She buys water, vegetables and other daily necessities from passing vendors. She very seldom leaves the house on her own to do errands like shopping, visiting etc (difficult because of her paralyzed leg). At about 11 a.m. she lights up the charcoal stove and starts preparing the afternoon meal, which consists of maize porridge and vegetable sauce. As I am the only one to talk to in the house Mama Abdul tries to find an excuse to interrupt my studying in order to have a chat. She rarely makes errands to the neighbouring houses, where there are several house wives at home.

2.30 p.m. Mohamed arrives home on his bike. The family has its afternoon meal together with me. It is Mohamed's first real meal of the day. Afterwards he has a rest in his room. Then he plays with Abdul, talks to people in and around the house or goes away to relatives or to the new house he is building in another part of the city.

5-6 p.m. The employed woman arrives back from a full day's work. If she has not had supper with friends or relatives in town she starts to prepare food for herself. Mama Abdul also starts to cook in the kitchen. The meals are prepared separately (cf Leslie 1963:69). Visits take place, but only far away visitors, mostly relatives, stay for supper.

8-9 p.m. The other two men arrive home after having had supper with relatives in town. The older one usually goes to the bar while the younger one stays at home resting or talking. Mohamed's family has supper with me, sometimes also with the employed woman or with visitors. We all sit on the big mat in my room eating with our right hands. The meal consists of rice with vegetable or chicken sauce, and fruit. The men of the house, and often also the women, sit in the breeze on the verandah talking or listening to the radio, while passers-by, often women who fetch water, are noticed as shadows in the dark. Before going to bed the tenants bring buckets of water to the "bath room" in the back yard, where they have a cooling bath in the light of a kerosene lamp.

ca 10 p.m. All except me and the man who went to the bar, have gone to bed. The entrance door and the door to the back yard are locked. All windows shutters are closed.

*

It is obvious that the house, in which I carried out participant observation, was untypical in many respects. Thus the number of occupants during most of the time, was only six, besides me, as compared to an average of 12 persons per house in the Magomeni area. There was only one child and only one house wife. Most tenants were Christians and all men spoke English fluently. Nevertheless I experienced some problems, which I considered to be typical of the

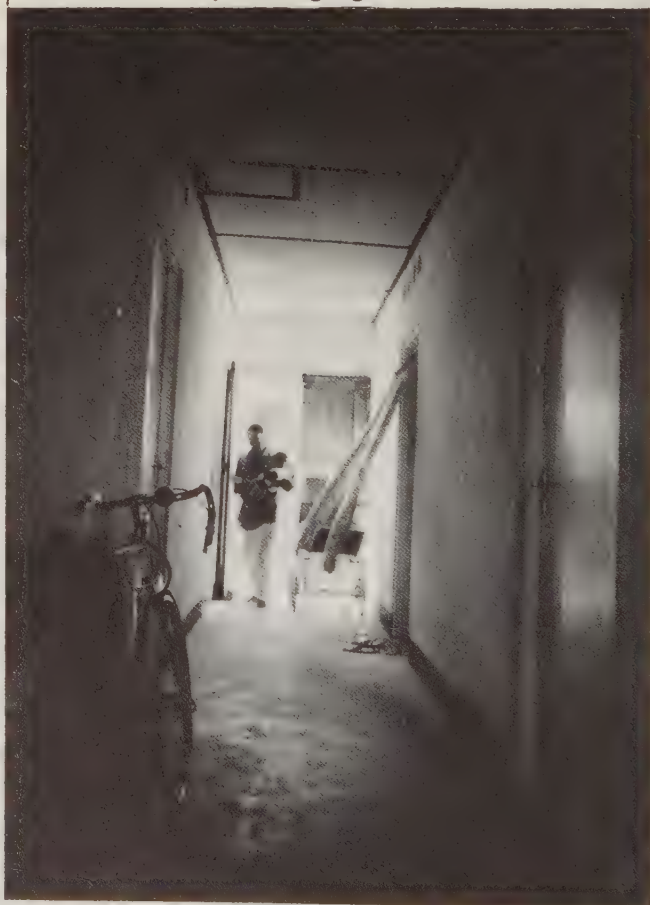
Swahili type house and of the area as a whole. The most important of these problems are discussed below.

7.4 The use of space in the house

Compared to other urban Swahili type houses in Dar es Salaam there was an ample amount of space per person in our house (before the house owner moved in). Except for my room, the private rooms were almost entirely used for sleeping, storing and eating (by those who took their meals at home). Sometimes guests were received in the rooms, but just as often they were entertained in the corridor or in the verandah. In our house only I and Mohamed had curtains covering the doorway when the door was open, but in other houses, inhabited for longer than ours, I noticed that almost all rooms had curtains in the doorway (protecting from insight and still letting the breeze through, cf Leslie 1963:69).

The corridor in our house was not as intensively used as I noticed in other Swahili type houses (cf Leslie 1963:69). Only now and then it was used by Mama Abdul for resting or for playing with the baby. On one or two occasions in six months we had our common meal there. Mohamed had a big pram (as Mama Abdul could not carry her baby on her back), which was often kept in the corridor as it was inconvenient to keep it in the room. At night Mohamed put his bicycle in the corridor. These bulky vehicles made it difficult to pass the corridor smoothly. Mama Abdul

Figure 7:IV. The corridor of the NHC urban Swahili type house is often blocked of bicycles and other bulky belongings.



swept the corridor every day, which was necessary as a lot of sand was deposited there because of the frequent passing in and out.

The verandah, which faced south-east, was almost exclusively used after sunset, contrary to the verandahs of other houses, which were also used during the daytime. In the evening most people of the house spent their time in this cool, outdoor dwelling space. They were talking, listening to the radio or just resting in the dark (cf Leslie 1963:71). Most verandahs were elevated one foot or two above ground level and people were usually sitting either on a grass mat or directly on the floor of the verandah. I rarely observed someone using a chair, although most people possessed both stools and arm-chairs. On the other side of the street I noticed, a few times, the verandah being used for praying. In some houses it was used for commercial purposes (e.g. hair-dressing, selling vegetables etc). Cooking, house-work or eating was never done in the verandah, at least not during daytime when it could be observed from the street.

In our house the front door was often kept shut until Mohamed came home. This was no strict rule, however, as Mama Abdul almost as often left it open - I don't know whether it was to let the light in, the breeze through or just to be able to catch a glimpse of the street. I got the impression that closing the front door and the window shutters could be used to indicate that "nobody is at home", i.e. the occupants do not want to be disturbed. Visitors did not enter without having received the reply "karibu" (welcome) to their "hodi", but this reply was always received.

In all NHC Swahili type houses there was a "kalo" (wash place) in the backyard, consisting of a cemented, elevated "lid" on the top of a cess-pool. Washing clothes, dishes and oneself (hands and face) was usually done here (cf Leslie 1963:69). Household articles almost always occupied the "kalo". The

laundry was dried on clothes-lines strung across the backyard. Cooking was often done in the backyard near the door-way of the kitchen.

Besides house-work the backyard was also used for taking care of children, receiving guests, resting, social intercourse and playing. The men of our house also spent a lot of time there, but in other houses the backyard was said to be mainly the women's domain. When the house owner moved in, he used a corner of the backyard for storing charcoal, which his oldest son was selling.

When I moved into the house the walls around the backyard had not been finished. The privately built urban Swahili type houses on each side of ours had no yard walls either, which meant that the activities of the backyards were exposed to the neighbours (to the extent that, for instance, the neighbours could be dimly observed when visiting the latrine/bath, as the palm leaves walls were of a poor quality).

I had the impression that the backyards without walls were not used as freely as they would otherwise have been. Usually people greeted each other across the backyards, but I observed very little conversation between the yards, although there were only three to five meters between them. Seldom did I see an outsider cross a backyard. Although there were no walls, the backyards were obviously regarded as "private" for the people of the house.

When the walls were constructed, a different atmosphere was created in the backyard. Knowing that one could not be observed, or that one could be observed only by people one knew well, the backyard was more often used for personal hygiene like washing one's face, cleaning one's teeth or plaiting the hair of co-occupants. People on their way to and from a bath could be seated in the backyard wrapped in a towel or a "khanga" (piece of cloth).

In our house, as in all NHC Swahili type



Figure 7:V. Backyard of an urban Swahili type house. Note that walls are missing around the backyards. The "kalo" (wash-place) is the centre of most activities in the backyard.

houses, there were two latrines and one "bath-room". Both when visiting the bath and when visiting the latrine one brought a bucket of water. As there were no clothes hangers, when undressing, the clothes were put on the top of the door, thus being exposed to the people outside. No high degree of privacy could be achieved in the bath or in the latrine room (cf Lewis 1961:238). When the latrine pit was full (taking two to five years) a tank lorry of the City Council could be called to empty the pit, but I heard many complaints that the waiting time was so long that the latrine became full to overflowing before they were emptied. Those who did not use the services of the City Council, usually dug a new pit a few meters away from the old one when it was full.

The kitchen was used mainly for cooking and for the storing of charcoal and kitchen utensils. The little charcoal stove, which was the most common type of stove, could easily be moved from one place to another with the pot still on top. As the kitchen floor was about one foot higher than the ground of the backyard, a "seat" was formed in the kitchen door-way, which was the most frequent sitting place when cooking (thus blocking the entrance to the kitchen). Like the actual cooking, the preparation of ingredients (e.g. squeezing the juice out of the coconut meat), could just as well take place in the backyard as in the kitchen. A lot of conversation took place in the kitchen of houses where there were several house wives.

The area around the house consisted of a little hill and a path in front of the house and three to five meters wide strips between the houses. The path was not cleared for car traffic, but cars managed to pass nevertheless. There was a huge mango tree in the middle of the "street", shading a large area. Rubbish was thrown in front of the house, occasionally producing a bad smell. There was no municipal collection of rubbish, but on the other hand

very little rubbish existed on the whole. The strips between the houses were mostly used for communication and for children's play. In the afternoon the people in the house next door often sat on a mat outside the window of my room, talking or listening to the radio (there was no shade in their verandah). A few times they also had their afternoon meals there.

In conclusion to the section on the use of space in the house, I could say that, although the social composition was not typical, I believe that the use of space in our house is relevant, in most aspects, to the situation in other urban Swahili houses as well. I got the impression that some dwelling spaces (like the kitchen and the verandah) were mainly used for one purpose, while others (like the backyard, the rooms and the corridor) were multi-purpose dwelling spaces.

7.5 Crowding and privacy

When observing the use of dwelling spaces in the Swahili type house I found strong reason to question the conventional definition of "overcrowding", referring to private dwelling space only. Activities like social intercourse, entertaining guests, eating and taking care of children - for which there was a certain degree of "free choice" between private and communal dwelling spaces - were often performed in communal areas. There were also cases of sleeping being located to corridors and backyards, but I never heard that this would have been out of "free choice". I got the impression that sex life and sleeping were the most "room bound" activities. The private rooms, therefore, seemed to be private in a very real sense.

Overcrowding was not directly experienced as a problem in the participant observation study. The maximum number of persons in one room was three. In Mohammed's case there was no problem of sleeping arrange-



Figure 7:VI. A room in a NHC Swahili type house may accommodate two beds, a sitting arrangement and a cupboard without being too congested.

ments: he slept in one bed and his wife and son in the other. His only worry related to crowding was that he could not get his huge radiogramophone into the room. But Moshamed told me that he wanted to build a house of his own so that in the future his son could get a separate sleeping room. He said that after four, or at least after seven years of age, it would be improper for a child to sleep in the same room as its parents. He also said he wanted an extra room for visiting friends and relatives.

Indirectly, by talking to people in Magomeni, however, I experienced the problem of crowding in several ways. I heard of bachelors sharing a room, bringing their girlfriends in turns in order to get privacy. In one household the teenage son had to sleep in the corridor. One family with three children in the same room as their parents, did not complain of overcrowding. There was one case of two couples sharing a room who said that they got along well after all. Some people sent their teenage daughters home to the village partly because of overcrowding.

It is obvious that the feeling of crowding depends on factors other than mere access to various types of living spaces. One such factor is the level of noise and its transmission from one room to another. In the mud-and-pole houses, which mostly lack ceilings and which often have cracks in the walls, the transmission of noise between the rooms ought to have been manifest (cf Leslie 1963: 69). In the NHC houses this seemed to be less of a problem.

In our house very few instances of such disturbances between the tenants were registered, with the exception of transistor radios on full volume, which seemed to irritate nobody except me. After 10 p.m. the whole neighbourhood was usually silent, except when traditional dances went on, or when some drunks passed outside. The first nights I was awakened by the Muslim herold and his cries at 5 a.m. not far from our house, but I soon managed to ignore this "noise".

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One strong impression from the participant observation study was that a high degree of privacy is possible in the Swahili type house. Doors and windows to the rooms offered very little insight as they were usually covered (cf Leslie 1963:69). Co-occupants seemed to respect the right of privacy in the rooms to the extent of never entering each other's rooms. There were cases of people, who had been living in the same house for years without even once having visited some of the other rooms. In our house most tenants met in the back-yard or in the verandah, and not in their private rooms. Once, when we were completely out of water, I noticed, however, that one tenant unlocked the door of another (absent) tenant to take some water from his bucket.

In the evening visitors could be received without being identified by other people in the house. Obviously this possibility was trusted to the extent that even married men, when

their wives were away, had secret nightly visits in their rooms. The fact that I was informed about it by co-occupants shows, however, that the options for secrecy in the Swahili type house has its definite limits, although there were indications that co-occupants, at least the men of the house, kept certain things secret in front of the women.

7.6 Neighbourly contact and security

No doubt, a certain degree of intimacy between the co-occupants was felt in our house. We knew each other's daily rhythms, we could hear each other going to the latrine or to the "bath room" and some of us entrusted our personal problems to the other occupants. Those who came home late without a key had to wake someone else up to have the front door opened. Living next to the verandah I strongly experienced this kind of neighbourly co-operation. The almost complete darkness after sunset contributed to the feeling of togetherness. I had the impression that it was impossible not to be aware of at least certain aspects of the lives of the other co-occupants.

The fact that the Swahili type house stimulates intimacy between co-occupants at the same time as anonymity is possible, seems to be a reason for concluding that the house types gives rise to suspicion and tension between single people and married couples, at least if one takes the existing sexual mores for granted. In our house this problem could not be very well studied, but my talks with other people in Magomeni showed at least that the subject was often discussed. I came across only two examples of actually occurring cases of "sexual irregularity". In the one case a wife accused her husband (with justification as far as I knew) of having had an affair with another woman of the house and in the other case a man was said to have killed a co-occupant for having seduced his wife. Some men told me that they would never get involved with women in the same house, even if they were spinsters, because it would lead to "trouble". Most of the people I talked to had been living in a Swahili type house for many years without having experienced conflicts of this kind.

That sexual affairs between neighbours was not unthinkable was shown by the fact that not less than two women from a neighbouring house (none of them prostitutes according to any conventional definition) approached one of the men in our house for this purpose. That strict moral norms could go hand in hand with less strict ones was indicated by the fact that a married man, who had several "girl-friends" in Magomeni, rigidly followed the traditional custom of refraining from sexual intercourse with his wife as long as she was breastfeeding her youngest child (thus providing for "spacing" of two to three years between the child births).

The intimacy and interdependence between occupants in a Swahili type house, of course, also implied that social control was facilitated. At the same time as the degree of "temptation" would rise in the Swahili type

house, so would the degree of neighbourly supervision. Therefore the amount of tension and suspicion between co-occupants would probably depend much upon the back-ground and attitudes of the people in the house. Evidently people often overestimated the possibility of keeping an "affair" secret in a Swahili type house. One example of both strong "loyalty" and unrealistic hopes for secrecy is that of one of our neighbours, married according to Christian customs, had brought another woman to live in the house while his wife was up-country. None of the co-occupants informed the new woman for four months (after which the wife returned, causing a violent quarrel which could be heard all over the neighbourhood). I was told that the others had kept quiet because the affair was regarded as the man's private business.

In our house I did not observe one single quarrel between the co-occupants during the six months I stayed there. I once heard complaints that so and so did not clean his room properly and, another time, that one could not keep any belongings in the corridor at night because one of the late-comers did not lock the front door after him, but none of this was said openly. There were no controversies over cleaning or using common dwelling spaces.

There were very few contacts between our house and the two neighbouring ones, despite the fact that we saw each other almost every day. Possibly our neighbours thought that we had less friendly relations than necessary, because one day there erupted a loud dispute between a woman of our house and those of one of the others in which my co-occupants were accused of all kinds of things, including being proud of living in the same house as a rich "mzungu" (European). Strangely enough the house owner of that house was the only neighbour with whom we had close and friendly contacts.

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I have already mentioned a few examples of co-operation between tenants in our house. Possibly the common meals we had were entirely due to my presence in the house, but other kinds of neighbourly interaction did not depend on this factor. Co-occupants often went shopping for each other, water was bought for those who stayed away all day, and those who were at home could receive and assist possible visitors for those who were absent. Mama Abdul swept the corridor for all of us and the employed woman sometimes took care of the baby when his mother went away on an errand. I do not think that lending money occurred at all in our house (except between me and the others), but in other houses I was informed that it was a normal source of interaction, and conflict - between co-occupants.

Even though not all tenants in our house knew each other well, there was definitely a sense of loyalty between us. I estimate that this loyalty essentially stems from the fact that we lived in the same house. We were obliged to co-operate in matters like the locking of the front door, the maintenance of common

facilities and certain other things. In this sense one may say that the Swahili type house provides for social security. It is easy to imagine that for a newcomer to Dar es Salaam who gets a room in this house type, assistance from co-occupants is important to his keeping his head above water - even if he has relatives in other parts of the city.

Perhaps the most important aspect of this kind of neighbourly loyalty is the safety of one's personal belongings. In our house, as I guess in most other Swahili type houses, there was always someone at home, protecting it against burglaries. My co-occupants often revealed their fear of theft. They were careful to close the window shutters, to lock the front door, to take their belongings inside at sunset etc. I could not establish to what extent this fear was actually based on personal experience. Mohamed said he remembered only one case of burglary: while he was sleeping in his room in the afternoon a stick was put between the bars of the window to hook out his clothes, but he woke up and chased away the thief. During my stay in the house only a charcoal stove was reported to have been taken from the back-yard.

7.7 Problems of introduction and sex of the observer

The purpose of the participant observation study was not to achieve a general view of life in the Swahili type house. This had already been done by Leslie in his survey of Dar es Salaam in 1956. Using Leslie's descriptions as a stimulus, the aim of my participant observation was limited to factors related to the spatial organisation of the Swahili type house. As I started out with very tentative assumptions it was difficult to decide which factors were related to the spatial organisation and which were not. I thought, however, that the purpose of the study did not make it necessary for me to learn fluent Swahili in order to carry out lengthy discussions with those who did not speak English (two persons in our house, everybody in the neighbouring houses). I devoted very little time to inquire into the rural background of my fellow tenants. Their behaviour was considered more important than their attitudes.

Most of the findings in the participant observation study could not be obtained from written sources. I assess my time in Magomeni as a necessary condition for formulating the questions in the observation and interview studies. As the method of participant observation might be of interest to other investigations within the field of building function analysis, it seems appropriate to pin-point some problems encountered in this participant observation study. I choose to do this as a comparison to the introductory discussions of the reports from three prominent anthropological studies: "Street Corner Society" by William Foote Whyte (1943); "The Children of Sanchez" by Oscar Lewis (1961), and "Authority and Change" by Karl Eric Knutsson (1967).

Whyte (1943:VI) and Knutsson (1967:8) point to the importance of giving an acceptable explanation to what one is doing. As is shown above, in my case, nobody seemed to remain suspicious after I (to my co-occupants) or Mohamed (to others) explained the authority and purpose of the whole study. Often, when I started to give details, I found that people stopped listening - I don't know exactly if it were because they thought it was too trivial or too complicated. I believe that the backing I had from Mohamed, and possibly also from the house owner, accounted a great deal for my being so readily accepted in Magomeni. People might have believed that their housing conditions would be improved as a result of my research, but nobody approached me for that specific purpose. Most of them probably identified me with the University, which (because of the colonial tradition) was not associated with anything that could have practical consequences for their own daily lives.

Possibly I was lucky enough to have found "leader personalities" in Mohamed and the house owner - thus facilitating my smooth introduction into the area - but I doubt that they had the same introductory function as those gang leaders identified by Whyte (1943:VI) or those *kallu* leaders mentioned by Knutsson (1967:7).

A few weeks after my moving in I was called to "my" ten-cell leader, of whose existence I did not know until then. Mohamed came along and explained what I was doing in the area. The ten-cell leader seemed to be insulted that we had not paid him a courtesy visit at our own initiative, and Mohamed and the house owner gave him right in the sense that they afterwards said that they had forgot about introducing me.

Originally no high degree of participation was demanded for the purpose of the study. I would only have to follow the natural rules of neighbourly co-operation in order to be accepted as a participant in the normal life of the house. However, it just so happened that I was integrated into Mohamed's family. I had most of my meals with them and Mohamed entrusted me with all his worries. I drove Mama Abdul to the hospital when she or her baby was ill, I often accompanied Mohamed when he went visiting and I served as a driver at the construction of Mohamed's new house. Just like Whyte points out, this active participation gave the participant observer something in common with the others. "It broke down the social barriers and made it possible to be taken into the intimate life of the group." (Whyte 1943:VII) However, all barriers could not be broken down this way.

As norms for male and female behaviour are strictly differentiated in most cultures, the sex of the participant observer could be expected to restrict the information received. The three anthropologists mentioned all give evidence of strict sex role differences in the cultures they studied, but none of them refer to this as a possible biasing factor. When studying political systems (like Whyte and Knutsson) it might be sufficient to associate only with men, who are bearers of political power,

but when studying houses, which are used most intensively by women, a male participant observer might find it difficult to register others than male views and behaviour.

In our house the two women were very reserved towards me at the beginning, but these inhibitions dissolved after a while. Nevertheless smooth communication with them could not take place as I did not know enough Swahili. I could, however, easily observe their daily activities. My presence in the kitchen, in the back-yard or at the common breakfast with the women alone seemed to upset nobody in the house. Frequently I even took care of the child, washed my dishes in the backyard and went shopping for the women. It is nevertheless probable that my information about certain aspects of life in the house was restricted by the sex barriers.

I was lucky enough, however, to get in touch with a female participant observer in the same area: social scientist Cristina Bartlett, who lived in another NHC Swahili type house together with several married couples. Speaking fluent Swahili and doing the normal house work together with the other women of the house, Christina Bartlett had good opportunities to learn to know the life of the women in her house. She reported that tension and suspicion were frequent, that the women trusted their relatives more than their husbands, that the men of the house seldom entered the back-yard etc. Other kinds of experience also referred to in this chapter are based on discussions with Christina Bartlett.

7.8 The conflict between participant and observer status

A normal problem in participant observation studies is the conflict between the role of participant and that of observer. For instance, another participant observer studying in Dar es Salaam at the time, became so attached to the group she was studying that she felt incapable of regarding them as objects of observation. I also felt this dilemma, but certain factors prevented too close an identification with the people observed. Although I participated in many activities in the house, my co-occupants knew that I lived temporarily under poor conditions, out of free choice, as an experiment only. They knew that I had much more money than they would ever be able to get and that I had friends of high status at the University.

My co-occupants also knew that I needed their co-operation for my research project. They knew that I depended very much on them for being introduced to new environments and to new people, for interpretation, for getting information etc. They did not hesitate to give away the information they had or to entrust me with their worries, but at the same time it was only logical for them to regard me as a wealthy foreigner whose status could be exploited for their benefit. I gradually found myself taking over more and more expenses of the family I lived with so that finally the husband spent his whole salary on the construction of his new house, leaving the rest

for me to pay. In certain cases I found that (to me) insignificant sums of money had been wheedled out of me. At the end of the participant observation period I had a few outbursts about these things. It gradually became clear to me that the friendship I experienced in the house rested on a false spirit of equality.

Neither Whyte in his "Street Corner Society", nor Oscar Lewis in his "The Children of Sanchez", nor Knutsson in his "Authority and Change" describe this reciprocal but unequal exploitation as a serious problem in their studies. Whyte writes that he

"tried to act as a friend was supposed to act in that society. My friends helped me with my work, and I helped my friends as individuals in whatever way I could." (1943:VII)

Was Whyte really accepted as a friend in the same way as the other members of the gang? Were they never dishonest to him and did they not try to get, for instance, his money? If not, what prevented them for doing it?

Lewis also gives a very unproblematic description of his relation to "his" family:

"The Sanchez family learned to trust and confide in me. --- I did not follow the common anthropological practice of paying them as informants... and I was struck by the absence of monetary motivation in their relationship with me. Basically, it was their sense of friendship that led them to tell me their life stories." (Lewis 1961:XX)

Considering the fact that one of the strongest features of these life stories is the struggle for survival and constant dishonesty even to members of one's own family, it sounds strange that Lewis' informants did not at all try to exploit him economically. The fact that telling their memories "served as a catharsis and relieved their anxieties" does not explain why they should not "borrow" some money from from their reliever.

Knutsson mentions the question of unequal economic status between the participant observer and those observed, but he finds it easy to prevent the unequal situation from becoming a problem:

"I was also looked upon as a man with great resources despite my efforts to keep camp equipment and belongings at an absolute minimum. In order not to encourage attitudes of this kind I made it a rule never to compensate for information or to give any gifts. (Knutsson 1967: 9)

Did they not dare to ask for gifts or did they really not want any gifts although the participant observer was looked upon as a man with great resources? Perhaps the prestige obtained from associating with a white man was regarded as a sufficient gift. If so, how did the expectations of the people alter their behaviour in front of the participant observer?

In the case of my study I became convinced that the conditional character of my friendship with my co-occupants was inescapable and logical. Even if it did not prevent my active participation, it reduced confidence and caused friction. There was, however, the positive consequence that it was easier for me to accept my role as observer. The incident of "dishonesty" reminded me of my status as an outsider, and I could write down my observations without the inhibiting feelings of closeness.

That the status of being an outsider has certain advantages has been pointed out by Knutsson (1967:7) and by Pons (1969:144). Pons mentions, for instance, that he "as a European" came to know people more rapidly than many other newcomers to the area. My experience confirms this observations.

7.9 Conclusions

The untypical character of the social situation in our house has been pointed out se-



Figure 7:VII. Water-seller in Kariakoo. The most common type of water supply in Dar es Salaam.

veral times above. Probably this disadvantage could have been compensated by more systematic observations of other houses, to which I could easily obtain access through contacts with the observers. One-day participant observations in other houses might have been a useful source of complementary information. This method has been applied - apparently successfully - by Pons (1969:130f & 139f). Concerning the situation in other Swahili type houses, I had to rely mainly upon brief conversations with Christina Bartlett and with those young men I visited now and then in the Magomeni area.

One may ask whether my special status in the house prevented me from obtaining correct information from my co-occupants. Concerning the use of space in the house I think that my presence distorted the typical behaviour in easily assessable respects only, such as where the common meals took place, how much visiting was made by Mohamed, that the washing was more often given to a laundry man and a few other things. Concerning the attitudes of my co-occupants they did not reveal any tendencies of "opportunism". They thought that it was only natural that I had opinions different from theirs. They seemed not to try to adopt attitudes which they thought would please me. Contrary to Whyte (1943:

VIII) I did not hesitate to voice my opinions. Possibly my co-occupants did not touch upon subjects that they thought I would not understand, like traditional beliefs, but concerning personal problems I think that at least some of them at times spoke more openly to me than they did to their wives or even to their relatives. In this respect I think that the unequal status between me and the others in the house did not distort the information they passed on.

With the reservations made in the text I think that what is written in this chapter is based on reliable information. Whether I have focussed on the most valid problems, however, is another matter. My selection of problems in this chapter reflects both my expectations before starting participant observation and my subjective experience during my stay in the house. Thus the assumptions made in chapter 6 have been guiding the selection of problems although no specified assumptions have been formulated here about the relationships between the organisation of dwelling space and social life in the observed house type. Specific assumptions are formulated in connection with the discussion of the material collected in the interview and observation studies in chapter 9-13.

8 Sampling and methods of investigation

Although the specific assumptions to be discussed in the interview and observation studies have not been formulated, the problem areas have been defined in the formulatory participant observation study. On the basis of this definition of problem areas I will, in this chapter, present the methods of sampling and investigation planned for the field study. The various problems encountered when using these methods, as well as the problem of representativity, are discussed separately in chapters 14-16.

8.1 Sampling unit and sampling areas

For the participant observation study, I came to live in Magomeni to the west of the city (see figure 8:I). Of all housing areas in Dar es Salaam Magomeni has the highest proportion of urban Swahili type houses (most of them built by the National Housing Corporation). In the centre of the area there is also a high concentration of old Quarter type houses. The housing structure and the functional land use in Magomeni can be seen in figure 8:II.

Because of the nature of the study I found it logical that the sampling unit would be the house as defined in figure 6:I. The Quarter type house, consisting of a block of four household units, was chosen rather haphazardly, mainly because I believed it would be comparable to the other house types. Concerning the first house type a distinction was made between privately built urban Swahili type houses and those built by the NHC, although this distinction was not used for sampling purposes.

In order to make the field study practicable I decided to restrict the selection of the first two house types to Magomeni only. The third house type has not been built in Magomeni. This house type exists in large numbers in the neighbouring Kinondoni area, especially in the southern part. I decided to limit the selection of this house type to only this part of Kinondoni. The two sampling areas are shown in figure 8:I.

8.2 The observation method affects the sample

I considered the only feasible method to study the use of dwelling spaces to be the employment of observers, who could gain access to the respective house types. I considered the method of making the households keep diaries of the activities of the day impossible. Such a method was used by Holm (1956). The method can be used only for literate people who are strongly motivated to participate in the study, and who, therefore, would be accurate enough when taking notes. For several reasons, photo-

graphical observation could not be used. Such a method was used by Carlestam (1968). The method can only be used for easily surveyable, sufficiently illuminated spaces, where the camera does not run the risk of being damaged. I estimated the method of asking people how they use their houses to be applicable only for specific activities such as where cooking, eating, storing and receiving guests take place. The time of the day and the length of time for each activity would probably not be obtained with any accuracy through the interview method.

But I also believed the employment of observers would imply a number of difficulties. In the participant observation study I could easily take notes of the whereabouts of the occupants in the house. But to send out observers to stay in or near houses unknown to the observers, would be a different thing. I assumed that if people knew they were subject to observations, they would voice objections or their behaviour would be strongly influenced. Therefore I decided that observations should be carried out anonymously without any previous explanation to the people who were to be observed. For these reasons it was necessary to find observers, who already had friends or relatives in the sampling area. They were to carry out a full day's observation in the house to which they could get access. The method was tested in four different urban Swahili type houses in Magomeni and it turned out to be useful.

It can easily be seen that the method of in-

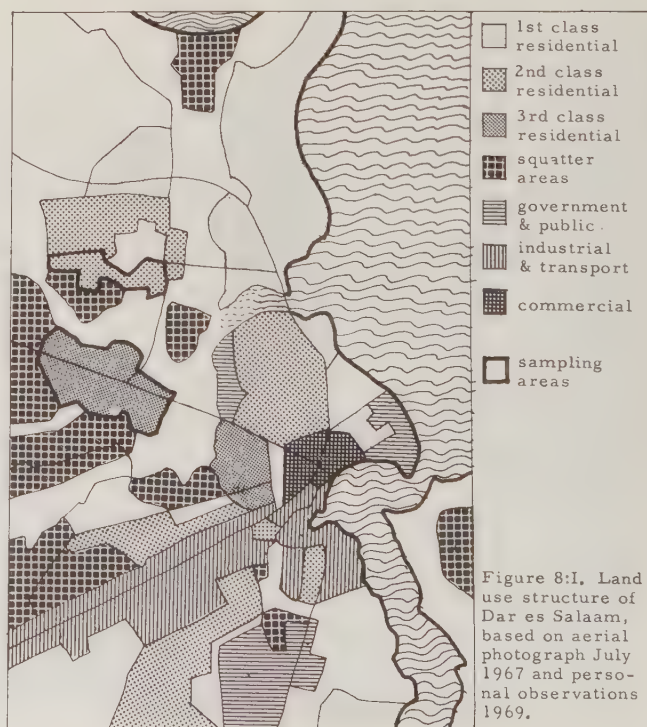
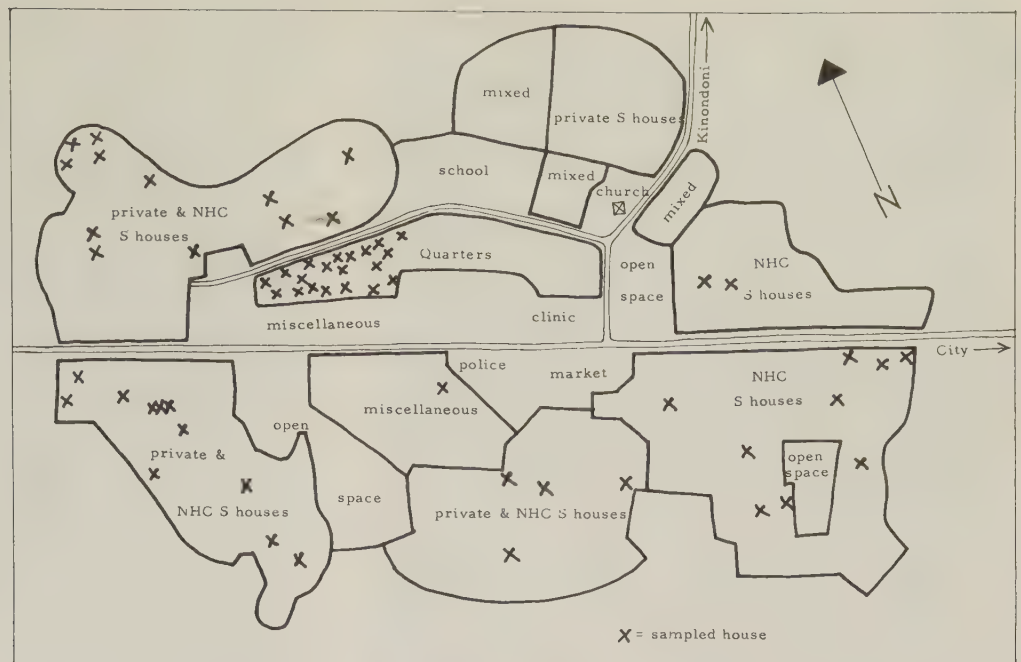


Figure 8:II. Distribution of house types and sampled houses in Magomeni. Map based on aerial photograph July 1967.



vestigation described above has a direct influence upon the selection of houses. A random sample proper would not be possible. I thought that the chosen sampling procedure would be justified because the subject of the study is almost unexplored, and because I considered it to be of greater importance to evaluate the methods and discuss the specific problems in detail rather than to achieve a high degree of representativity. This point has also been made by Marris (1961) who states that "the research worker in an African city has to some extent to choose between refinement of technique and a less systematic search for insight into the society he is studying!" (p XIV).

8.3 Observations

I originally estimated that the chosen method of observation would be too time-consuming and difficult to employ to allow for a large sample. Only a limited number of urban Swahili and Quarter type houses were proposed for selection. During the course of the field study the observation sample was extended. For further discussion about this, see chapter 14. I considered 16 hours of observation (from 6 a.m. to 10 p.m.) enough in order to cover the main aspects of the use pattern in the respective houses. For reasons of the observers' convenience this was later reduced to 15 hours.

The dwelling spaces in and around the respective house types were classified according to the principles outlined in chapter 6. I originally also planned to study the relation between use of spaces and climatic conditions, e.g. rain, clouds and sun. For reasons given in section 15.5, this idea was abandoned. The related intention of investigating shade and sun influencing the use of the house was abandoned for practical reasons. It proved impossible to include another variable for the observers to keep in mind. Shaded parts of the verandah, backyard etc as well as exposed to the sun, would have had to be redefined and registered successively over the day. Thus, this part of the ob-

servation study was excluded together with the other climatic aspects. The indoor/outdoor aspects was included in the observation study, however, as were the private/communal and protected/exposed aspects.

A list of activities was worked out for the observations. To register the location of activities, the dwelling spaces in and around the two house types were defined and numbered. After some test observations the definitions of activities and dwelling spaces were readjusted and finally confirmed (see appendices no 2 and 3). A special observation form and instructions to the observers were worked out (see figure 8:III and appendix no 2). The observers were requested to make at least half a day's test observation, and to discuss this with me, before starting the proper observation work. The geographical location of the final sample for observation is shown in figure 8:II (marked with x). Special problems in the observation study are discussed in chapter 15.

8.4 Informing the people concerned

As the observation study was planned to be carried out anonymously, no information about this study was given to the people concerned at the beginning. This procedure, of course, also prevented the effective advertising of the study to the public, which would have been particularly desirable in a study with possible practical results (cf UNESCO 1956:65). The observers were instructed to only inform about the study if requested to do so, and then only in general terms. When the argument in favour of anonymity proved to be invalid, this procedure was changed.

There is no reason to believe that people should welcome studies of their daily life just because a certain research project has been approved by the authorities. Cases of hostility to social surveys are not uncommon in post-colonial Africa. La Fontaine (1970:X) reports, for instance, that one of three communes selected for investigation had to be abandoned

altogether because of the hostility of the inhabitants. In Dar es Salaam there were no indications of general antipathy for social surveys, but nevertheless I saw it as very important to gain the confidence of the people concerned before starting the interviews. Although I believed that the most important factor in gaining the confidence of the interview person would be to show how the study could benefit him personally, such a "promise" could not be given except in very general terms, as is the case with all studies which are not directly combined with concrete actions. The information given would, of course, have to be easily understandable. The risk of raising false hopes in the interview persons was clearly shown by the remarks of the interviewers of the study "Family Life in Dar es Salaam" (Freyhold & Westergaard 1969):

"(the people) were convinced that we were interviewing them for one major end and that was - to try to find out who had most problems and thus deserved special consideration for a new house" --- "They anticipated an immediate solution to their housing problems" --- "most of them expected something in return for their own betterment".

Marris (1961:XIII) indicates that hopes for betterments might increase the reliability of the replies as such hopes will stimulate the respondents to be more "concerned to put their point of view".

An information sheet was worked out for the interview and observation studies together (appendix no 1). It was translated into Swahili and provided with stamps and signatures by the local NHC office in Magomeni and Kinondoni respectively. It was decided that the information sheet should be distributed, in the first instance, to house owners and ten-cell leaders (the lowest administrative functionaries, in charge of about ten houses). Although the information sheet explained the purpose and nature of the study, I believed that its main function would be to give the study an authoritative status. For the purely informative aspect personal and oral explanations were thought to be superior. The importance of such a procedure has been pointed out by Leslie (1957:324) and by some of the interviewers of the study "Family Life in Dar es Salaam".

The information sheets were distributed by the project leader accompanied by one of the interviewers. Ample time was devoted to explain more about the study to all those who were interested. Most ten-cell leaders, house owners and tenants accepted the information without too many questions. Only a few house owners were suspicious, but were satisfied when they found out that the study was sponsored by the NHC and accepted by their ten-cell leader. For further discussion about confidence in the interview situation, see section 16.2.

8.5 Interview sample

The method of observation was chosen in order to study the use of dwelling spaces. The other questions were to be investigated by interviews. For the interviews it would have been

PERSONS OBSERVED	House owner room 1		Wife of house owner room 1		Baby of house owner room 1		Single man room 2		One brother room 3 & 4		Another brother room 3 & 4		Baba Juma room 5		Mama Hamis room 5	
	acti- vity	locati- on	acti- vity	locati- on	acti- vity	locati- on	acti- vity	locati- on	acti- vity	locati- on	acti- vity	locati- on	acti- vity	locati- on	acti- vity	locati- on
7.00	S	1	B	12	S	1	A	16	A	16	N	4	?	5	?	5
7.05																
7.10																
7.15	B	12	C	10							H					
7.20	N	8											J	16	S	16
7.25												3				
7.30																
7.35			K	1	K	1										
7.40											N					
7.45											A	16				
7.50	E	1	E	1	Y	1										
7.55	J	16	H	1											H	5
8.00																
8.05																
8.10																
8.15				10		10										10
8.20															C	
8.25																
8.30																
8.35																
8.40			N	9	E	9									E	9
8.45																
8.50																

Figure 8:III. Part of filled-in observation form. Key lists of dwelling spaces and activities are found in appendices no 2 and 3.

possible to make a random sample proper, but I considered it desirable to have a certain overlapping between the interview and observation samples in order to allow for double control and analysis of the relation between variables in the two samples. As it turned out to be relatively easy to cover a large number of houses with observations, and in order to simplify the processing procedure I decided to make the two samples identical for the urban Swahili and Quarter type houses. Therefore the discussions above about the observation sample is also applicable to the interview sample.

All households in the selected houses were to be interviewed. The main reason for this was the desire to study the contact/conflict pattern in the houses. It would also allow for cross checking of information concerning the house as a whole (cf Lewis 1961:XI). For the same reason, and because women were expected to have special experiences about life in the house, all wives in marriage-like relations were to be interviewed.

Interviewing wives, especially by male interviewers, was thought to imply certain difficulties. Husbands would perhaps not allow their wives to be interviewed. Or they would possibly do it only under their own supervision, which I thought would have a distorting effect upon the interviews (cf Southall & Gutkind 1957: 73). Because of lack of education and limitations by traditional customs, women could be

expected to be less articulate in answering questions about their housing situation. As house wives are usually the most intensive users of house and could, thus, be regarded as "experts" on housing problems, it was decided to direct a smaller number of questions to them, despite the expected difficulties. In order to indicate that the wife interviews were different, and not aiming at controlling the replies of the husbands, a few special questions were designed for the wives and put at the beginning of the interview. The special "wife question" were about stoves, preparing meals and looking after children.

8.6 Design of questionnaire

In a situation where the investigator is not well acquainted with the language and customs of the people to be studied the working out of the questionnaire requires special attention. Meran McCulloch has stated that

"The formulation of questions presents special difficulties in plural communities. They must be meaningful to the whole population being studied, and they must be significant and applicable to the area prior to the drawing up of schedules, even schedules limited to such apparently obvious questions as size of household, number of children, and marital state. The necessity is, of course, much greater where the answers are to involve attitudes and opinions." (UNESCO 1956:67)

Warnings against "a direct transplantation of sociological questionnaire technique and its control methods to a non-Western field" has also been raised by Knutsson (1966:32). In the context of Dar es Salaam this problem has been touched upon by Leslie (1957:318).

The participant observation study in Magomeni offered good opportunities for me to become familiar with the life of the people. Nevertheless special considerations were made to avoid mistakes when formulating the questions.

The questionnaire was worked out in co-operation with social scientist Christina Bartlett. It was separately translated into Swahili by a professional translator and a student of sociology in order to evaluate the possible differences in translations. Each interviewer was then requested to make two test interviews with the provisional questionnaire. The experience thus obtained was used for the design of the final version of the questionnaire (appendix no 4). For further discussion about these problems, see section 16.1.

In order to provide a basis for evaluating the validity of the interview questions and the reliability of the replies, a special form was prepared for the interviewers to fill in after each interview (appendix no 5). For this purpose the experience of the recently completed study "Family Life in Dar es Salaam" was used. For further discussion about the results obtained through this, see sections 16.2-16.5.

Several social scientists with experience from interview studies in Tanzania ascertained that people tended to see interviews as some kind of school examination, in which some replies are wrong and others right. To avoid this

situation and make people feel at ease, the interview was introduced by a few general attitude questions, which I believed would also give an idea of the subject of the whole interview study. The first question was designed to focus the attention upon the housing area, the second upon life in the individual house, and the third upon the house type.

The vague phrasing of the first three questions would prevent any detailed analysis, especially concerning dissatisfaction with the spatial aspects of one's housing environment. In order to obtain more precise replies about the housing situation of the interview person, three other attitude questions were designed: two concerning the best and worst aspect of the house, and one about desired changes in the house. These three attitude questions were placed at the end of the interview so that the respondent would have time to think about his housing situation during the interview. The assumption that the presentation of the housing study affects the replies towards greater reliability is supported by Egerö (1967:9), who points out that the focussing of attention to the housing environment

"may be seen as an advantage as the opinions we have registered have been well-considered and stable, but it also means that the replies may differ from those we would received without this influence." (translated from Swedish)

A general question about attitudes to different house types could be expected to be less fruitful for evaluating the three house types to be studied, but such a question was nevertheless included at the very end of the questionnaire. As well-founded opinions about house types presuppose experience from different house types (Egerö 1967:4 and 1964:21; Hole 1968:5), questions about these opinions were included together with questions about previous housing experience. A question about the respondent's three last places of residence was included, besides one about length of residence in Dar es Salaam.

Questions concerning preferences about house types, and in fact all attitude questions, become meaningful only if related to the physical, social and cultural environment in which the attitudes are formed (Egerö 1964:78; Hole 1968:3). In the case of this study 13 questions were designed to give information about the general housing situation in Dar es Salaam. These were about manner of and waiting time for obtaining new places of residence, conditions for being accepted as a tenant, the role of acquaintances when looking for a new place, rent and income level, and role of housing in one's household budget.

People become more aware of the advantages and disadvantages of different aspects of their housing situation when they are about to change their residence. For the study of reasons for moving, Rossi (1955:124) has proposed the method of "reason analysis", about which he says: "Reason analysis is particularly applicable to human actions which involve a conscious choice among alternatives and which result in a change in the actor's behaviour." For the last change of residence the actual reasons for moving were to be asked for. In order to

establish the level of awareness about these reasons (assuming that the respondent moved "voluntarily"), the question was designed in three parts: a) for an open reply; b) for replies according to 14 specified alternatives and c) for replies about the most important one of the specified alternatives. This design of the question coincides well with that proposed by Rossi. He divided his question into a) a question of stimulus: "What made you start looking for a new house?"; b) a series of exposed questions, and c) a question of evaluation of the most important reasons for moving (quoted from Egerö 1967:20). By comparing the replies to the three parts of the question, I estimated that the degree of consistency, and thereby the degree of awareness, could be established. A similar design was made for studying the reasons for desire to move from the present house. Special questions were formulated to study the actions taken to find a new places.

11 questions were designed for the use of dwelling spaces. Four were about sleeping arrangements, three about cooking, two about eating and one about receiving guests. Although I believed it would not be very rewarding, a special question about how the respondent used his time and space the day before the interview, was included.

Seven questions were formulated for the problem of overcrowding. Four were about sleeping arrangements, two about age of oldest child sleeping in the same room as his parents and one about the desired use of possible extra room. The number of members of the household would be obtained from a special question about the household. As the concept of "overcrowding", in the minds of the respondents, was estimated to be a very diverse one, no special question was designed to measure the feelings of overcrowding. Such measures would be obtained from the general attitude questions and from the questions about reasons for desire to move.

Not less than 29 questions were designed for the problem of neighbourly contacts. Four

of these concerned attitudes to neighbours, three concerned acquaintances before moving, two concerned proximity to one's closest friend/relative, two concerned visiting and seven concerned conflicts between neighbours. I believed that people would not admit their own quarrels between neighbours in general (cf Dahlström 1951:266). The same was considered to be the case with conflicts between unmarried and married people. A question of why bachelors do not use the common kitchen in the urban Swahili type houses was also estimated to reveal conflicts.

12 questions were designed for the study of the contact pattern in the urban Swahili and the Quarter type houses. Four concerned sharing meals with co-occupants, two concerned assistance in cooking, two concerned borrowing/lending money, two concerned assistance in taking care of children and two questions concerned contacts in general. In order to emphasize the confidential character of the study specifications of contacts were to be made by referring to room no rather than to personal characteristics of the households. The questions about contacts in the house were to be used for sociogrammetric studies of neighbourly contacts.

Six questions for the study of security in one's house were included in the questionnaire. One was about locking one's door, two were about trusting one's neighbours, one about theft in the house, and one about the placing of one's door (only in urban Swahili type houses). At the request of Rev. L.W. Swantz of the Dar es Salaam Urban/Industrial Project, a special question was included about magic protection of the house. As these things are seldom discussed publicly, the use of magic objects and the belief in their power were estimated to be difficult to investigate. In order to make the question more "natural", the benefit of magic protection was to be asked for, rather than for the existence of it. People who expressed an opinion about the benefits could also be expected to believe in the power of magic.

9 House type and attitudes to housing

One may say that the selection of problems and methods of investigation described in the previous chapter were based mainly upon the limited experience of the formulatory participant observation study. However, the final formulation of assumptions and discussions of detailed problems, presented in the succeeding chapters, were based on a wider knowledge of the social situation in the three house types. This knowledge was obtained from other studies of Dar es Salaam, but also from the general questions in the interview study. This chapter is an attempt to give a general presentation of the social situation in the three house types at the same time as various sub-assumptions related to the basic assumption are tested.

9.1 Definition of the problem

In section 6.3 the basic assumption was transformed into three main assumptions about the respective house types selected for investigation. These assumptions are to be tested in relation to more specific factors like the use of dwelling space, overcrowding, neighbourly contacts and security in the house. These factors - which are all assumed to be related to the spatial organisation of the three house types - could be expected to affect people's general satisfaction with their housing situation. If, for instance, family living is seriously distorted in the urban Swahili type house, as has been asserted by Swantz (1968:5), one could expect this to be reflected in a negative attitude to this house type. Thus the main assumption to be discussed in this chapter can be formulated as follows:

Assumption 1: The differences between the house types are reflected in the attitude of the inhabitants to their housing situation.

It is necessary to define the concept of "housing situation". I have found no theoretical discussions of this concept, but most current housing studies include the following factors:

- The spatial organisation of the house (often limited to the plan type of the house);
- The standard of construction of the house;
- Environmental factors like sanitary conditions, microclimate and landscape (service facilities in general might also be included)
- The social situation in the house and its environment, e.g. frequency and quality of neighbourly contacts, proximity to friends and relatives;
- Other factors like rent level, distance to one's job, tenurial relations etc.

Thus, an individual's housing situation is

usually assumed to be composed of a series of factors, with a varying degree of correlation to the house type itself. The spatial organisation of the house is only one out of several aspects of one's total housing situation. But at the same time one can assume various factors to be causally related so that, for instance, a factor, which appears to be non-spatial is caused by a spatial factor. In the absence of a clear theory about this problem I suggest that the vague definition of the concept of "housing situation" be retained in the hope that the relationship between its various components can be deduced from an analysis of the replies given to questions about reasons for moving, inclination to move and preferences for different house types.

9.2 Previous experience of housing in Dar es Salaam

It has already been pointed out that people's experience of living in different forms of housing is usually too limited for them to articulate well-founded opinions on various types of houses (section 8.6). In the case of this study, however, it could be expected that at least people in Quarter type houses and in NHC one-family units have previous experience of living in urban Swahili type houses, which would enable them to compare at least two different types of spatial organisation.

In the interview, to facilitate relevant comparisons, the discussion about previous experience of house types was restricted to Dar es Salaam. Only 7 per cent of the heads of household in the sample were born in Dar es Salaam. 64 per cent said they had been living in Dar es Salaam less than ten years and 44 per cent less than five years. There is a considerable difference between the situation in the urban Swahili type (S) houses and that in the Quarter type (Q) houses. In the S houses most of the respondents said they had been living less than five years in Dar es Salaam, while most of those in the Q houses said that they had been living in Dar es Salaam 10 years or more. The distribution of replies in the NHC one-family (F) houses is closer to that in the S houses than to that in the Q houses. Thus, although respondents in the S houses have a higher proportion of persons born in Dar es Salaam, the respondents in the Q houses have, on average, stayed longer in the city.

Length of residence in Dar es Salaam is also related to type of household. The average length for unmarried people is five and a half years, while that for family type households is eight to nine years. (Concerning definitions of types of household, see section 11.7.) For

Table 9:1. Previous housing experience in Dar es Salaam for heads of household (number of cases, partially accumulated figures).

	No previous experience	Last house type	2nd last house type	3rd last house type
NHC Swahili	33	29	8	-
Private Swahili	10	146	104	54
Quarters	15	24	10	6
NHC one-family	1	5	-	-
Private one-family	-	16	8	5
Flat	-	7	2	1
Other	-	9	1	-
Total	59	236	133	66
Per cent	20	80	45	22

the time spent in Dar es Salaam the heads of household were requested to specify house type and length of residence in previous houses.

Table 9:1 shows that 20 per cent of the respondents have no previous housing experience in Dar es Salaam. 35 per cent have one other experience, 23 per cent two other experiences and 22 per cent three or more previous housing experiences. The absolutely most frequent house type is the privately built mud-and-pole urban Swahili type houses. It accounts for 70 per cent of all previous housing experiences registered. Second most frequent is the Quarter type house (9 per cent), and third most frequent is the NHC Swahili type house (8.5 per cent). From what I have seen in many parts of Dar es Salaam the private mud-and-pole one-family houses are to a very large extent of the improved traditional Swahili type. If the NHC and the private one-family houses are counted as one house type it can be considered to cover 8 per cent of all the previous housing experiences. House types different from the mentioned ones account for only 4 per cent of the previous experiences.

Table 9:1 does not show to what extent respondents, who have lived in several different houses, have also lived in different house types. A separate investigation reveals that 19 respondents changed house type moving from the third last to the second last house, that 46 respondents changed house type moving from the second last to the last house, and that 173 respondents changed house type moving from the last to the present house. In these calculations the NHC and the private Swahili type houses are counted as one house type. The same is true for the NHC and the private one-family units. Thus, of all heads of household (including those without previous housing experience) between 65 and 70 per cent have experience of at least two different house types in Dar es Salaam. The assumption that people in Q and F houses have previous experience of living in urban Swahili type houses is supported.

The time spent in previous houses varies widely. Of those who were able to estimate the length of residence in previous houses (85 per cent) only 38 per cent spent three or more years in the house.

9.3 Appreciation of previous housing experiences

Assumption 1 can be rephrased and applied to the previous housing experiences of the

respondents:

Assumption 1¹: The differences between the house types are reflected in the appreciation of the previous houses in which people have been living.

All respondents who had previous experiences of at least two houses in Dar es Salaam (136 heads of household) were requested to specify most and least appreciated house and the reason for their evaluations. The distribution of house types according to most and least appreciated house reveals no significant difference. The urban Swahili type house accounts for 68 per cent in both cases, although that built by the NHC is slightly more frequent among the most than among the least appreciated housing experiences. Thus assumption 1¹ is not supported.

Regardless of the absence of differences in the appreciation of the experienced house types there might be interesting differences in the reasons given for preferences and dislikes about previous houses. This can also be expressed as a sub-assumption of assumption 1:

Assumption 1²: The differences between the house types are reflected in the reasons given for appreciation of previous housing experiences.

I was hoping that it would be possible to use the division into components of the housing situation, outlined in section 9.1, when discussing this assumption, but as it turned out no explicit reference was made to the spatial organisation of the houses except in one sense: whether or not there was enough space for the household. Therefore the division into types of reasons was slightly changed. The replies were classified according to the following division, including examples taken from the interviews:

Crowding (examples, see section 11.13) Standard of construction

- The house was well built.
- It was almost falling down because of its age.
- It was in bad condition: no ceiling.
- The house leaked in the rainy season.
- The building was comparatively cool.
- It was more fashionable and lighter.

Environment/service

- There was water and electricity.
- The surroundings of the house were dirty.
- There were lots of mosquitoes in the area.
- I liked the area.

Table 9:2. Reasons for appreciation of previous housing experiences (number of respondents).

Crowding	Construction	Environment	Social factors	Others	Don't know
18	27	9	41	21	9
18	36	7	34	13	10

- The latrines were smelling.
- Not modern, no electric light or water installed.

Social factors

- The house owner was very co-operative
- The house was peaceful
- I was in constant difficulties with fellow tenants.
- The house owner was a very quarrelsome person and he locked the main door at 10 p.m. which created a problem for late-comers.
- The tenants were friendly and co-operative.
- There was more privacy.

Others/unclassified

- It was more decent than the others.
- Good rooms.
- No thieves.
- It was near the city.
- The house rent was too high.
- It was cleaner.
- There was witchcraft in the house.
- Quarters are more independent.

Don't know

The examples show that a great deal of guess-work had to be done when classifying the replies given. Thus the reply "It was more fashionable and lighter" might imply that the area was fashionable and light, but I thought that it was more likely that the respondent was referring to the building materials of the house and to the existence of proper windows. Similarly it is possible that a reply like "The house was peaceful" implies that the house was not situated near a busy highway, and thus that it should fall into the category "Environment/service", but my guess was that the reply referred to the social situation in the house. Other divisions for similar purposes have been made by Amartefio et al (1966:48f) and by Hoad (1968:8). For further discussion of classification problems, see section 9.6. and 9.12.

Using the above division the replies about most and least appreciated house were distributed as in table 9.2.

Respondents who gave replies like "all were bad", "the last two ones were better", "both were OK" (altogether 9 and 12 per cent respectively) are not included. Table 9:2 shows that "Construction" and "Social factors" are the most important types of reasons, the latter type clearly dominant for most appreciated house. The result shows that the replies, to a large extent, refer to the total housing situation, as outlined in section 9.1, and not to strictly physical aspects of it.

The above categories of reasons were correlated with type of least and most appreciated house, but the number of observations was too limited to permit any detailed analysis. No correlations were found. My conclusion is that the method of investigation (design of questions and principle of classification of reasons) as well as the number of

observations were inadequate for testing assumption 1^c.

9.4 Housing in the household budget

As was pointed out in section 8.6 questions concerning housing preferences become meaningful only if related to the total environment in which attitudes are formed. It is obvious, for instance, that people often think that there is little point in aspiration for houses they can not expect to get. But even in cases where obtainable house types do exist, these might not be in demand because people do not know about them, or they might not be interested in changing even if it would seem beneficial to them from a "rational" point of view.

Discussions about reasons for moving are usually based on the assumption that there exists a certain degree of "free choice" when moving. But if housing is scarce and/or if the intervention by house owners or housing authorities is dominant, the element of "free choice" is limited, which means that a discussion of individual motives for moving is less relevant.

*

Most adult Tanzanians in Dar es Salaam had their first housing experience in the country-side. I assume that housing shortage hardly existed there. Leslie affirms that "room to stretch out again is no trouble at all up-country, where a day's work without a penny changing hands will produce another room" (Leslie 1963:31). In rural areas change of residence is probably a rare event. The problem of analysing motives for moving hardly exists as there was usually only one house type. I believe that the reasons for getting a new house are usually not thought of in terms of personal motives.

In a capitalist system of a city housing becomes a commodity of the housing market. In the pure case the paying capacity of the household becomes an expression of the degree of "free choice" when looking for a house, and the rent level becomes a measure of balance between supply and demand. In order to get an idea of these factors I have compared the salary of the heads of household with the house rent. I found that in the total sample the medium salary of heads of household is approximately 350 sh/month. 21 per cent stated that they earn more than 600 sh/month and 11 per cent stated that they earn less than the official minimum wage in Tanzania: 180 sh/month. Only 12 respondents refused to state their salary.

The most typical rent situation in the sample is one room at 30 sh/month in an S house. The second most typical is a two-roomed unit at 21 sh/month in a Q house.

These two rent situations account for almost 70 per cent of all the responding households. Only 9 per cent said that they pay 20 sh/month or less. 15 per cent stated that they pay more than 50 sh/month.

The correlation between salary and house rent reveals that as many as 64 per cent of the heads of household pay less than 10 per cent of their salary in rent. 27 per cent pay less than 5 per cent of their salary in rent. Only 17 per cent pay more than 10 per cent of their salary in rent.

The 1965 "Household Budget Survey of Wage-Earners in Dar es Salaam" (Central Statistical Bureau 1967) found that the average salary for wage-earners in Magomeni was 217 sh, while the total expenditure for the same people was 315 sh, which means that the paying capacity of a household would be about 45 per cent higher than the salary of the head of the household. The same study showed that in the whole sample housing - including furniture, fuel and services - accounts for 15.5 per cent of the total expenditure of the household, and that the rent itself constitutes less than half of the total housing costs. These figures show that one does not make a serious mistake if the proportion between rent and salary is used to indicate the proportion between housing costs and household income.

Thus it seems as if housing expenditure does not constitute a heavy entry in most household budgets. Except for the lowest wage group the paying capacity seems to be large enough to allow for considerations of different alternatives on the housing market.

9.5 Freedom of choice when moving

Sufficient purchasing power is a necessary but not a sufficient condition for choosing among various house types on the housing market. In order to get a clearer picture of the procedure for obtaining a new house the respondents were asked how they found their present room(s) and how long they spent searching. Of all the responding heads of household 31 per cent said they found their present accommodation entirely by themselves, and 43 per cent said they were assisted by friends or relatives. Only 16 per cent said that they got it through the National Housing Corporation or the City Council. Other ways are uncommon.

The time of waiting varies greatly (up to four years). 83 per cent said they had to wait six months or less, 53 per cent one month or less and 20 per cent said they did not have to wait at all. The average waiting time at the NHC or the City Council is two or three months; for respondents who were assisted by friends or relatives it was said to be two months; and for those who were looking entirely by themselves, five months.

Those who found their present place through their employer or by marriage may not have had any opportunity to articulate motives for moving or to consider the selection on the housing market. For those who got their present place of residence through

the NHC or the City Council the application to the authorities might have been made in a situation of acute need for a new residence or as a result of far-sighted planning. Considering the fact that the NHC waiting list in 1969 comprised tens of thousands of people with very low prospects of getting a new house at all, it is astonishing that the stated waiting time for those who found their present place through the NHC or the City Council is not much longer. More than 50 per cent of the respondents in the Q houses and 25 per cent in the NHC one-family units stated that they found their house themselves or through friends or relatives. Therefore the distinction between these two alternatives on the one hand and the replies about the NHC and the City Council, on the other hand, is not very clear.

The waiting time varies considerably for all three major alternatives. At least for those who stated that they looked themselves or that they were assisted by friends or relatives, a long waiting time reflects either that they could afford waiting for a better choice or that the housing shortage is so great that no spare supply is available. Assuming that the paying capacity of the household influences the waiting time and that the salary of the head of household reflects the paying capacity of the household, it should be possible to see which of the two factors is most crucial in the sample. The cross-tabulation of waiting time and salary of the heads of household reveals no significant correlation. Neither is any significant correlation found between salary of head of household and way of obtaining present place of residence.

Marital status seems, however, to influence the way the present place of residence was obtained. 70 per cent of the unmarried respondents said they found their present room through friends or relatives. The equivalent figure for married heads of household is only 31 per cent. The latter mostly found their present place themselves. Almost all those who went through the NHC or the City Council are married. The difference in waiting time for various types of household is seen in table 9:3.

Table 9:3. Type of household and average time for obtaining present place of residence.

	Un-married people	Couples	Nuclear families	Extended families
No of weeks	10	25	18	19

It can be assumed that unmarried people are more likely to make less strict demands upon their place of residence than families. The relatively shorter waiting time for unmarried people indicates that they accept less attractive alternatives than others. Couples without children have the longest waiting time and this is interpreted as being due to the fact that, as long as they remain childless, they can afford to wait for a better alternative.

The difference in waiting time for people in different house types is even more striking.

According to table 9:4 the longest waiting time recorded is for respondents in the Q houses and the shortest in the NHC S houses.

Table 9:4. Present house type and average time for obtaining present place of residence.

	NHC S	Private S	Q	F
No of weeks	8	10	29	20

The main conclusion of this is that it is relatively easier to find a room in an urban Swahili type house than in the Quarters or in the NHC one-family units.

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We have seen that the average length of residence in previous houses was fairly short (about three years). We have also seen that 3/4 of the households in the sample found their present house themselves or through friends or relatives, which indicates that it was not obtained through the intervention of house owners or authorities. The relatively low proportion of the salary spent on rent, and the fact that the type of household influences the waiting time (while the salary apparently does not), are also seen as indications that the general conditions for change of residence in Dar es Salaam are such that a discussion about individual motives for moving is meaningful.

9.6 Reasons for moving from previous house

The reasons for negative appreciation of past housing experiences discussed in section 9.3 may be quite different from the actual reasons for moving (cf Rossi 1955:129). The following sub-assumption can be made:

Assumption 1³: The differences between the house types are reflected in the reasons given for leaving them.

Relying on the conclusion above that a certain degree of free choice usually exists, we shall discuss here the considerations made by the respondents in the most recent change of residence: that from the last to the present house. At least 27 per cent of the responding heads of household said that they moved to their present house more than five years ago. Nevertheless only eight of them gave incomplete replies or said that they did not remember the reason for moving.

Of the remaining 289 respondents 59 said that they had not moved from another house in Dar es Salaam. They were either born in their present house, accompanying their parents, or they moved directly from a place outside Dar es Salaam. Of the remaining 230 respondents 43 gave replies indicating that they did not move out of free choice. They gave replies such as the following:

- I learned that the house would be pulled down soon.
- Our father died and the house was sold.
- The owner of the house wanted to live in the house, so tenants were asked to vacate it.
- I got a transfer from a Resident Magistrates Court in Ilala to Kinondoni.
- The Arusha Declaration laid down that leaders should not have more than two

sources of income. The owner of the flat could not let it, thus we had to leave.

- My employer transferred me to this house from the barracks.

Thus the question of reasons for moving to the present house could be put only to 187 persons, i.e. to 63 per cent of all heads of household in the sample. For reasons given in section 8.6 the question was divided into three different parts. To the first part (no 21 a) the 187 respondents gave 301 replies. The two last parts (no 21 b and c) followed a list of 14 specified alternatives. Out of all replies given to the first part 18 per cent could not be classified according to the 14 specified alternatives. Examples of non-classified replies are:

- The house owner was divorced and she had nowhere to live with her three children. I felt sympathetic when she lived in the kitchen while I stayed in her house so I decided to give her a chance to occupy her house..
- I was given this house by NHC.
- My brother came from up-country so I left the house for him.
- I had to look for a better house before I sent for my wife.

As the non-classified replies constitute a fairly low proportion of all replies, and as they display a great variety in character - at the same time as the 14 specified questions were answered with consistency (see below) and were well comprehended, I estimate that the made-up list covers all important reasons for moving.

For those 160 or so respondents who gave replies to all three parts of question 21 I could compare the replies to the three parts in order to establish the degree of consistency in the replies. It turned out that it was difficult to make a sharp distinction between consistent and inconsistent replies. Someone who referred to crowding in reply to the first part and replied "I wanted a room of my own" in reply to the last part of the question was not considered inconsistent as the two replies could be regarded as identical. Many respondents who had previously been living with relatives or friends answered either that they moved because they wanted a room of their own or because they wanted to live away from their relatives/friends, which indicates that these replies were also interpreted as identical by the respondents. Those who gave "too much noise" as a reason obviously often regarded this reply as consistent with the other three alternatives just mentioned, but sometimes it seems to have been a replacement for "I did not like the people of the house".

An interesting case of correlation is that between the alternative "I was afraid of witchcraft" and the alternative "I could not get along with the house owner". Of those 12 respondents who mentioned witchcraft in reply to the second part only two had referred to this factor in reply to the first part of the question. Instead they started by replying that they could not get along with the people of the house. When asked again in the third part of the question about the most important reason for moving, as many as nine respondents

Table 9:5. Type of last house and reason for leaving it (number of replies).

	NHC Swahili	Private Swahili	Quarters	Others
<u>Crowding</u>				
●The previous houses was too small	4	31	3	1
<u>Standard of construction</u>				
●The house was in bad condition	1	33	1	3
<u>Environment/service</u>				
●The house had no water	0	2	0	0
●The house had no electricity	0	0	0	0
●The area did not please me	0	12	1	2
<u>Social factors</u>				
●I did not like the people..	4	7	0	1
●... not get along with the house owner	5	12	0	1
●There was too much noise	1	6	0	1
●... closer to relatives/friends	1	6	1	1
●I wanted a room of my own	6	19	9	8
●... away from my relatives	0	3	0	1
<u>Other factors</u>				
●The rent was too high...	2	9	1	0
●It was far from my place work	2	5	0	3
●I was afraid of witchcraft	2	6	0	1
Total	28	151	16	23

mentioned witchcraft. My interpretation is that reference to witchcraft is a way of "explaining" hostility between people and thus that a shift in reply as described here does not signify inconsistency.

Respondents who answered "I did not like the area" or "I was just bored to live in that house" in reply to the first part of the question, and then, in reply to the last part, mentioned "I did not like the people..." or "I wanted a room of my own" are not necessarily inconsistent, but they are considered to have given a vague, evasive reply. As a shift in emphasis or character has taken place in such cases I have classified them as inconsistent. The same thing was done for those who shifted from "high rent" to any other alternative, although this can not be said to be inconsistent as the rent is seen in relation to what one receives in exchange.

Using the vague definition of "inconsistency" I found that 88 per cent of the 177 relevant respondents had given "consistent" replies to the three parts of question 21. I found, furthermore, that the precision in replies usually increased from the first to the last part. Therefore I have only included the replies to the last part in table 9.5.

Because as many as 69 per cent of the replies are given by people who have moved from mud-and-pole urban Swahili type houses, the number of observations for the remaining house types are too few to permit proper statistical testing. Table 9:5 seems to show, however, that complaints about overcrowding and standard of construction is proportionally more frequent in the private Swahili type houses (see marked figures), while "Social factors" are more frequent for the other house types. In the NHC Swahili type houses animosity between the people of the house (including the house owner, see marked figures), seems to be a more important reason for moving than in the other house types. In the NHC one-family houses such replies are irrelevant, of course. Reference to the house owner is also irrelevant in the Quarter type houses. In the latter two house types the

most important alternative is "I wanted a room of my own" (marked figures).

My interpretation of these figures is that people who (have an opportunity to) move from the mud-and-pole urban Swahili type house feel that low standard of construction and overcrowding are more important reasons for moving, although social relations between co-occupants might be the same in the two urban Swahili type houses. In the NHC Swahili type houses dependency on other people in the house appear as the most important reason for moving. In cases where a person lives with friends or relatives, on whom he is dependent, the desire to obtain a place of one's own seems to be the most important reason for moving.

Alternatives under "environment/service" seem to become important only when the other, "more basic", requirements have been satisfied. This assumption is confirmed when studying the replies to the second part of the question in relation to the other two parts. In reply to question 21 b, where all contributory reasons are asked for, lack of water and electricity as well as unpleasant surroundings are mentioned much more often than in reply to the questions about the most important reason for moving.

In table 9:5 the division outlined in section 9.3 is used for grouping the 14 alternatives under the respective headings. However, referring to what has been said above about identity between different alternatives, the outlined division must be rejected or at least revised. The alternatives "The previous house was too small" and "I was afraid of witchcraft" are definitely as much "social" as the other under the heading "social factors". Even the remaining "non-social" alternatives obviously contain social aspects.

The fact the most replies refer to social relations, while complaints about spatial aspects are not at all explicitly expressed, does not mean that the spatial organisation of the house does not affect one's reasons for moving. On the contrary, as the "social reasons" are most dominant in the S houses, it could

Table 9:6. Reasons for leaving previous house and 1) salary, 2) religion and 3) type of household of respondent (per cent of all replies in each column).

	Salary			Religion		Type of household	
	Low	Medium	High	Muslim	Christ.	Single persons	Families
Crowding	10	14	23	11	18	10	19
Standard of construction	15	12	2	14	8	9	11
Environment/service	3	5	2	4	2	3	3
Social factors	20	34	28	22	27	31	23
Others	52	35	45	49	45	47	44
Total	100	100	100	100	100	100	100
n	79	107	47	153	180	89	215

be assumed that this kind of reply is a reflection of the spatial organisation of the S houses.

However, before the support for assumption 1³ can be assessed, it is necessary to establish whether other factors such as the distribution on houses types of salary, religion and type of household of the respondents, could be the cause of the differences in replies about reason for moving. In table 9:6 these three factors have been correlated with the first part of question 21, which was also put to wives. The original division into factors has been retained because it turned out to be relevant to the purpose of the investigation.

Table 9:6 shows that reasons under "Crowding" are slightly more frequent for high salaried respondents, for Christians, and for families with children, while reasons under "standard of construction" are slightly more frequent for low salaried respondents and for Muslims (see marked figures). "Social factors" are slightly more frequent for medium salaried respondents, and for single persons (see marked figures).

Since, proportionately, the S houses are more often inhabited by Muslims, single persons and low-salaried people the correlations found in table 9:6 coincide with those in table 9:5, which means that it cannot be directly established whether it is the social situation or the spatial organisation of the respective house types that causes the differences found in table 9:5. The figures in table 9:6, however, indicate that complaints about crowding are no more basic than other reasons for moving. It is furthermore indicated that reasons under "environment/service" are not correlated with high status constituted by a high salary, Christian religion or by forming a family. The small amount of complaints about environment/service combined with the fact that the Quarter and the NHC one-family type houses usually have good services and environment, while the urban Swahili type houses usually do not, is taken as a confirmation of the above assumption that these types of reasons belong to a later stage in one's urban experience. The other interpretations of table 9:5 are also confirmed in table 9:6.

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I feel inclined to conclude that the main house types discussed in this study constitute a scale, where the mud-and-pole urban Swahili type house represents the earliest stage

in a sequence of urban housing experiences, and where the Quarter type house and various one-family units represent later stages of housing experiences for urban migrants. It is also concluded that the reasons for moving form a hierarchy, in which a low standard of construction is regarded as more basic, while social relations are less basic and environment/services are least basic.

The fact that reference to bad social relations are made to a limited extent in the S houses, while such reference is virtually non-existent in other house types, is an indication that the collective spatial organisation of the S houses affects the replies about reasons for moving, but that neighbourly interdependence in this house type is not the most important reason for moving. Thus, while assumption 1³ is supported, the influence of the spatial organisation is only weakly indicated.

9.7 Satisfaction with last change of residence

When moving, a situation of free choice could be expected to reveal itself in a higher degree of satisfaction about one's change of residence. The reasons for moving, furthermore, do not only reflect the quality of the housing situation one moved from, but also the quality of one's present housing situation. This can be expressed as follows:

Assumption 1⁴: Replies about satisfaction with one's last change of residence is dependent on the house type one has moved to.

For the testing of this assumption the following question immediately followed the question about reasons for moving:

22. Now, are you happy that you moved to this house?

A positive reply to the question is estimated to indicate that the most important expectations upon the new place of residence were fulfilled, but not necessarily that the respondent is satisfied with his housing situation. It was the purpose of the question to focus the attention upon the last move, but the phrasing of it also permits association to the present housing situation. Thus it is possible that respondents, who were satisfied with their last change of residence, have still answered "no" to the question, because their demands have changed in the meantime.

Besides salary of head of household, the measures of "freedom of choice" selected in this study are way of and time spent obtaining the present house. It becomes apparent that those who found their present house through friends or relatives are slightly less satisfied (18 per cent "not satisfied") than those who found it themselves or got it through the NHC or the City Council (13 per cent). Concerning waiting time there is an even stronger correlation.

Table 9:7. Waiting time and satisfaction with last change of residence.

Waiting time (months):	less than 6	1-6	more than 6
Per cent "no"	21	12	6
n	92	87	51

According to table 9:7 the proportion of negative replies to question 22 is more than three times as large for those who looked for a house less than a month than for those who looked six months or more. This is taken as a sign that those who spend a long time finding a new house have a better chance of being satisfied than those who do not.

Table 9:8. Present house type and satisfaction with last change of residence.

	NHC	S	Private S	Q	F
Per cent "no"	11	26	13	11	
n	192	62	117	37	

Table 9:8 shows that as much as 86 per cent of the respondents said that they were happy to have moved to their present house. The proportion of dissatisfied respondents is about twice as large in the private S houses as in the other house types.

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The discussion above shows that a long waiting time increases satisfaction and that respondents in private S houses are more dissatisfied with their last change of residence. Since the average waiting time is almost the same in the NHC and the private S houses it is concluded here that the private S houses are less attractive on the housing market, and that a long waiting time for this house type reflects an attempt at finding accommodation in other house types, while a short waiting time may reflect resignation in these ambitions.

9.8 Inclination to move from the present house

In studies of this kind it is often assumed that expressing a desire to move is a more reliable indication of dissatisfaction with one's housing situation than many others measures of attitude (e.g. Egerö 1964:78, Mitchell 1970:20). I will here study the role of the house type according to the following sub-assumption:

Assumption 1: Dissatisfaction with one's house type is reflected in one's inclination to move.

In reply to the direct question (no 54) "Would you like to move from this house?" the replies were distributed as in table 9:9.

Almost 3/4 of the respondents said that they did not want to move. In three of the house types the desire to move is proportionally more or less the same (22-26 per cent), while it is almost twice as high (44 per cent) in the private S houses. This confirms above conclusion about satisfaction with one's last change of residence. As the NHC and the private S houses are considered to have the same spatial organisation the result is taken as an indication that it is not primarily the spatial organisation of the houses which affects one's desire to move.

Nevertheless it is possible that the role of the spatial organisation of the house is reflected in the reasons for wanting to leave one's house. With a minor alteration of assumption 1² (section 9.6), this can be expressed as follows:

Assumption 1⁶: The differences between the house types are reflected in the reasons given for the desire to leave them.

For the purpose of discussing this assumption all respondents who answered "yes" to question 54 were asked why they moved. After that they were asked (in question 55) about all contributing reasons according to a list of 14 specified alternatives. Apart from a change of tense and other minor alterations the alternatives are identical to those for question 21 b with one exception: the alternative "I wanted to live away from my relatives" has been replaced by "There are many quarrels". I thought that the former alternative should be excluded because, while people might be prepared to admit that they wanted to leave their relatives in the past, they might be reluctant to admit it in their present situation. I wanted to include the new alternative about quarrels because I thought that respondents might be reluctant to state that they do not like the people in the house, while they might find it easier to express the same attitude in a more indirect way by admitting the existence of quarrels in general.

Classifying the 146 spontaneous replies given by the 122 respondents who answered question 54 according to the list of alternatives in question 55, a distribution as in table 9:10 was obtained.

Of all replies given 21 per cent could not be classified according to the made-up list. The most frequently stated reason is crowding, which accounts for 55 per cent of all the classified replies. This reply is the most dominant in all house types except in the private S houses, where "The house is in bad condition" dominates (see marked figures). In the NHC S houses conflicts with others in the

Table 9:9. Type of house and inclination to move.

	NHC	S	Private S	Q	F
Would like to move (%)	24	44	22	26	
n	203	71	119	46	

Table 9:10. Type of house and reason for desire to move.

	Pri- NHC S	vate S	Q	F
<u>Crowding</u>				
●The space is small, it is not enough	30	7	19	7
<u>Standard of construction</u>				
●The house is in bad condition	2	15	4	0
<u>Environment/service</u>				
●There is no water	1	2	0	0
●There is no electricity	3	1	0	0
●The area does not please me	0	0	0	0
<u>Social factors</u>				
●I do not like the people in the house	4	0	1	0
●I can't get along with house owner	3	1	0	0
●There is much noise	0	0	0	0
●I want to live near friends/relatives	1	0	0	0
●I want a room of my own	1	2	1	1
●There are many quarrels	0	0	0	0
<u>Other factors</u>				
●The rent is too high	0	3	0	0
●It is far from work	3	0	0	1
●Because of witchcraft	1	0	0	0
●Non-classified replies	12	9	6	4
Total	61	40	31	14

house, including the house owner, are more frequent than in the other house types, although the number of observations is too limited to permit any definite conclusions.

In reply to question 55 about all contributory reasons for desire to move the distribution of replies is quite different. Of the 257 replies given by 92 respondents to this question "crowding" accounts for only 28 per cent. Instead replies under "environment/service" constitute a large portion of the replies (more than four times higher than before). Also replies under "social factors" are more frequent, especially for respondents in the NHC S houses. This result is interpreted thus, that while crowding and standard of construction are the most important reasons for the desire to move, reasons related to environment/service and to social factors are also valid as additional reasons. The slightly higher frequency of reference to bad social relations in the NHC S houses indicates that these types of reasons might become decisive when the more basic problems of crowding and standard of construction have been solved.

In order to isolate the influence of the spatial organisation of the house type upon the desire to move it is necessary to study the influence of other factors. Two such factors are type of household and occupation.

The highest proportion of "yes" replies is found among unmarried people and the lowest

among childless couples and extended families. The result supports the previous observation that those who have been waiting a long time for their present house (couples and families more often) are more satisfied with their housing situation.

There are significant differences in the proportion of "yes" replies given by various occupational groups. Among white-collar workers 40 per cent want to move, while the equivalent figure for manual workers is only 23, and in the other groups it is less.

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From table 9:9 we could see that the desire to move was considerably higher among respondents in private S houses than among those in other house types. From table 9:11 we could see that the desire to move was higher among unmarried people than among other types of household. The proportion of unmarried people is higher in S houses than in other house types (47-49 per cent in the former as compared to 24-29 in the latter), but it is almost the same in the NHC and in the private S houses. The difference in desire to move is larger for the mentioned house types than for the mentioned types of household.

There is also a correlation between house type and occupation. The proportion of manual workers is higher in the S houses and

Table 9:11. Type of household and desire to move.

	Unmarried people	Couples	Nuclear families	Extended families
Would like to move (%)	34	21	27	23
n	123	43	207	63

Table 9:12. Occupation and desire to move.

	Un- employed	Manual worker	White- collar w.	Self- employed	House wife
Would like to move (%)	14	23	40	14	18
n	7	122	131	28	132

lower in the Q and the F houses. The highest proportion of respondents who have indicated a desire to move is found among white collar workers. Although these are to a large extent found in the Q and the F houses, the desire to move is lower in these house types than in S houses. This can only be partially explained by the fact that the proportion of house wives, who indicate a low desire to move, is higher in the Q and the F houses. The conclusion is that it is mainly the white collar workers in the S houses, especially the private ones, who have expressed a desire to move.

These findings support my tentative conclusions in section 9.6. that the private S houses represent an earlier stage in one's urban housing experience. The findings confirm, furthermore, that this house type has a low status on the housing market, and that the reason for leaving this house type is the low standard of construction. The strongest desire to move is found among white collar workers (high status) in private S houses (low status), which I interpret thus that one's inclination to move is a question of incongruence between status of occupant and that of house type.

One may say that assumption 1⁶ is supported, but that it is doubtful that it is the differences in spatial organisation which cause the differences in reasons for desire to leave. The fact that the differences between the two S house types are larger in certain respects than those between the S houses together and the other two house types together seems to show that the spatial organisation does not have a strong influence upon one's attitudes.

9.9 Preferences about house types

What has been said above shows that the universal tendency to cut one's coat according to one's cloth is applicable to the field of housing as well. The observation, which is not new (e.g. Egerö 1964:22 & 1967:3, Hole 1968:3), implies that attitude questions about house types provide very little information about the direction of actual changes of residence and even about the qualities of the house types. Expressed preferences about house types might, however, tell something about the status of the respective house types on the housing market. Thus, although not designed to test assumption 1, a special question was put about which house type is preferred in general. In order, to avoid individual desire running completely wild the preference for a new house (type) was made dependent on a fictitious wage increase, which I believed would also illustrate the general significance which housing had for the households. The questions, which were put at the very end of the interview with the heads of

household, were formulated as follows:

70. If your wage were increased by shs 100 would you look for another house?

71. (If yes or maybe): What kind of house would you prefer?

In reply to question 70, 63 per cent of all the heads of household answered that they would not look for another house. They either considered their present housing situation satisfactory or they said that they preferred to use the money for something else despite deficiencies in their present housing situation. The proportion of "no" replies varies from 47 per cent in the private S houses to 72 per cent in the F houses, indicating that a wage increase would have the greatest effect in the lowest status house type.

In reply to question 71, only four of the 110 respondents who answered "yes" or "maybe" to question 70 answered that they did not know which house type they would prefer and only three indicated different house types. This seems to imply that people usually have an idea of what kind of house type they would prefer if they earned shs 100 more per month.

Table 9:13 shows that the two main NHC house types are the most popular ones, and that nobody with shs 100 or more in wage would like to move to a private Swahili type house. Respondents in Q houses usually said they would prefer the NHC one-family units; those in private S houses gave preference to the NHC S houses, while respondents in the latter type of houses answered that they would prefer another house of the same type almost equally as often as they mentioned the NHC one-family units (marked figures).

These findings are taken as a further support for the previous conclusion that the house types constitute a scale from low to high status on the housing market. Combining the observations in section 9.6 with those in this section the respective house types can be placed in the following status order: 1) private (mud-and-pole) Swahili type house, 2) NHC Swahili type house, 3) Quarter type house, 4) NHC one-family units. Modern flats and first class one-family units probably represent an even higher status, but these house types are not dealt with here.

The discussion concerns only tenant status in the respective house types. As the private (mud-and-pole) one-family unit is usually occupied by the owner's household the status of this house type cannot be included in the above scale. To "prefer" such a house type would mean to build one.

Table 9:13. Present house type and preferred type of house.

Present house type:	Preferred house type:
NHC Swahili	
Private Swahili	
Quarters	
NHC one-family	
Other types	
Total	

NHC S	Private S	Q	F	Total per cent
<u>20</u>	<u>11</u>	3	1	34
0	0	0	0	0
4	6	11	1	11
<u>21</u>	7	<u>12</u>	3	42
7	3	2	2	13
52	27	18	6	100

9.10 Appreciation of present housing situation

Above I suggested that the inclination to move is a better indication of dissatisfaction with one's housing situation than are replies to general attitude questions. Nevertheless I want to examine the two measures and compare them to one another. An assumption to be discussed can be given the following formulation:

Assumption 1⁷: Dissatisfaction about one's house type is reflected in replies about one's general housing situation.

The most general open attitude questions were the first two ones in the interview:

1. How do you see life in Magomeni/Kinondoni?
2. How do you see life in this house?

The first question was designed to focus attention on the housing area, while the second was intended to make the respondents think of the situation in their own house. The replies were classified as positive, neutral and negative. This was not always easy, e.g. in cases such as the following:

- I don't like it very much because it is far from my place of work, but people around here are generally good and friendly.
- Generally good except for theft which is common around this area.
- It is cooler than in most of Dar es Salaam, but too many mosquitoes.
- OK - only that some of the residents here do sometimes play music at odd hours of the night.
- Fine as a shelter. I don't have much experience here because most of the time I am on safaris.

These few examples show that the replies might contain only one aspect of one's housing environment without indicating its weight in comparison to other aspects. Nevertheless, using a good deal of guess-work, the replies were classified on the basis of the information given. Concerning other possible errors in the replies see section 16.6.

Table 9:14. Present house type and reply to question 1 about the area (per cent).

	NHC S	Private S	Q	F
Positive	46	75	58	72
Neutral	40	17	41	0
Negative	14	8	1	28
Total	100	100	100	100
n	140	52	76	18

Question 1 was only put to heads of household. Table 9:14 shows that respondents in the private S houses are on average more positive, while those in the NHC S houses are more negative to their housing area, than respondents in the Q houses.

Question 2 was put to all respondents. Table 9:15 shows that respondents in the private S houses are strongly divided between those who

Table 9:15. Present house type and reply to question 2 about life in one's house (per cent).

	NHC S	Private S	Q	F
Positive	42	56	39	85
Neutral	43	13	42	2
Negative	15	31	19	12
Total	100	100	100	99
n	197	70	119	41

are negative and those who are positive to life in their own house, while the extent of neutral replies was larger among respondents in the NHC S and the Q houses. Respondents in the F houses are on average more positive than those in other house types.

*

Have question 1 and 2 focussed attention as intended? A closer analysis reveals that a large proportion of the replies are so vague or brief that it is unclear how the questions have been conceived. Such replies are "Fine", "OK", "No Complaints", "Unsatisfactory", "I don't like it" etc. Between 1/2 and 2/3 of the replies are detailed enough to reveal how the questions have been understood by the respondents. Of these the overwhelming majority show that attention has been focussed as intended. There is no reason to believe that those who have given vague or brief replies have misunderstood the questions more often than others. Therefore I think it is correct to conclude that respondents in the private S houses are more positive to their housing area and more negative to life in their own house than respondents in other house types.

The fact, according to table 9:14, that respondents in the three first house types have pronounced different opinions about the same area (Magomeni) can be seen as an indication that judgements are made from different frames of references in the three house types. I assume that the housing area is judged differently depending on the extent to which other aspects of one's housing environment are satisfactorily provided. The fact that respondents in house types as different as the NHC S and the Q type houses have an almost identical distribution of replies to the question about life in their own house, while respondents in the two Swahili house types give very different opinions (table 9:15) seems to be a strong reason to reject the assumption that it is the different principles of spatial organisation which cause the differences in attitude between the house types.

Although it is unlikely that the replies to the two open attitude questions reflect dissatisfaction about the spatial organisation of one's house type, the analysis above shows that such questions can be used as a measure of general dissatisfaction with one's housing situation. This is further supported by the correlations in tables 9:16 and 9:17.

Replies to both questions 1 and 2 are strongly correlated to the applied measure for inclination to move. As the replies about one's house are more strongly correlated to the inclination to move than the replies about one's area I conclude that the house is more im-

Table 9:16. Inclination to move and attitude to housing area.	Reply to question 1: Would like to move (%)	Positive	Neutral	Negative
n		29 161	23 95	69 29

Table 9:17. Inclination to move and attitude to one's own house.	Reply to question 2: Would like to move (%)	Positive	Neutral	Negative
n		18 201	15 144	64 78

portant to one's dissatisfaction than are factors related to the housing area.

9.11 Problems of the house types

An examination of the more elaborate replies to questions 1 and 2 reveals that even in these cases direct references were seldom made to the house types. However, such references were expected to the following question and according to the following assumption:

Question 3. Do you think there are problems associated with a house of this type? Which?

Assumption 18: The differences between the house types are reflected in the replies about problems with these house types.

Question 3 asked for the problems of the house types and not for the qualities in general. The question was put only to heads of household. For reasons described below neither the division into five categories described in section 9.3 nor the division into 14 specified alternatives described in section 9.6 has been used for classifying the replies to question 3. Instead they were classified as shown in table 9:18.

32 per cent of all respondents said that there were no problems with the house type. The remaining 202 respondents mentioned 354 problems which are included in the table above. The table reveals clear differences between replies of respondents in the different house types. Of all replies in each house type the most frequent have been marked with vertical lines and the highest figures for replies of the same kind have been marked with horizontal lines in the table.

Respondents in NHC S houses mentioned lack of water and electricity, deficiencies in construction and crowding as the most important problems. In the private S houses a

low standard of construction is considered the most important problems, but bad hygiene, lack of water and electricity, and crowding are also frequently mentioned. In the Q houses bad hygiene (including complaints about latrines) is a very dominant reply. In the F houses complaints about construction, lack of space and "others" are most frequent.

Complaints about lack of space is proportionally more frequent in the F houses (although this house type is the most spacious). The other three house types have the same proportion for this reply. Bad construction is mentioned proportionally more often in the private S houses and the F houses. Deficiencies in or lack of windows is mentioned only in the two S houses.

There can be no doubt that the problems of the respective house types are reflected in table 9:18 and thus that assumption 18 is supported. But is it the spatial organisation of the respective house types which is reflected?

9.12 House type and spatial organisation

Concerning complaints about bad administration and high rent, these factors might be correlated to the respective house types, but the replies about this (under "others") can not be said to reflect the spatial organisation of the houses. The installation of electricity and water can be said to form part of the construction of the house, and these facilities may certainly affect social life, but according to the reasoning in section 6.3 complaints about lack of electricity and water should not be seen as reflections of the spatial organisation of the houses.

Complaints about small or too few rooms show that people think that they do not have enough dwelling space. Small differences in room sizes may also be important:

Table 9:18. Present house type and problems with the house type (per cent).

	NHC S	Private S	Q	F
Crowding (rooms small or too few)	15	16	17	24
Construction (details or general)	18	26	15	28
Windows (too few or deficient)	5	5	0	0
Security (lack of)	5	0	3	7
Microclimate (too hot)	10	2	0	0
Store, bathroom (lack of)	0	0	9	0
Kitchen (lack of or deficient)	1	0	9	0
Water, electricity (lack of)	21	17	6	7
Hygiene (latrine or dirt in general)	9	19	35	7
Sharing of facilities (lack of privacy, troubles of main door etc)	12	10	3	0
Others (bad administration, high rent etc)	4	5	3	28
Total	100	100	100	101
n	173	58	94	29

- The rooms on one side of the corridor (in the NHC S houses) are smaller and this makes it difficult for a person with a large family to put in more than two beds.

This example also shows that it is not only a question of the size of the room: the dimensions could be made such that another bed can be fitted in without increasing the room size. That complaints about crowding may also refer to the organisation of rooms in relation to each other is shown by the following replies:

- Rooms are too few and too small. Guests are recieved in the 'bedroom'. There can't be any secrets. (NHC S house)
- Too many people in the same building, which makes it necessary to co-operate very much. (NHC S house)
- People are brought so close together that quarrels are bound to occur, especially among women. (Private S house)

To rent two rooms in an urban Swahili type house would cost 50-60 sh/month, which is more than most low-salaried people can afford. But even if they could afford another room, it is not certain that their problems about "crowding" would be solved, because the spatial organisation of the house may be such that it promotes a feeling of crowding. For further discussion of the problem of crowding, see chapter 11.

The fact that those who have the largest houses (those in the F houses) also have the largest proportion of complaints about lack of space can only be interpreted thus that their aspirations are so high that incongruence occurs between their demands and what they already have, despite ample supply of space.

Complaints about the standard of construction in general can not be said to reflect the spatial organisation of the house, but certain details of construction are related to the spatial organisation. Such replies are, for instance, the following:

- The courtyard gets flooded in the rainy season. (NHC S house)
- Doors to the bedroom are missing. (Q house)
- There is no washing place. (Private S house)

If drainage is not provided and the backyard gets flooded then this probably affects the use of dwelling space in the house. I also consider the placing of door openings and facilities such as washing places as part of the spatial organisation. As no distinction has been made between complaints about construction in general and complaints about specific details related to the spatial organisation the figures under "construction" in table 9:18 cannot be said to reflect the spatial organisation of the houses. However, some such details have been registered separately, namely (lack of or deficient) store, bathroom and kitchen. In the Q houses there are no stores or separate bathrooms (they are combined with the latrines), and the kitchens lack doors. These factors are parts of the spatial organisation. In the S houses one complaint about lack of enough storage space has been classified under "crowding" and one wish for a second kitchen has been classified under "sharing of facilities".

Also deficient or the lack of windows have been registered separately and table 9:18 shows that complaints about this part of the

spatial organisation are restricted to the S houses. Not all complaints about windows have been registered here, however. The following examples show why:

- The rooms should have two windows. (NHC S house)
- The windows don't allow enough air circulation. (NHC S house)
- Windows are small and do not offer security against thieves. (Q house)
- Wooden windows are not strong enough for thieves. (NHC S house)

It is obvious that people do not usually complain about windows because of lack of light, but more often for reasons of climate and security. Thus a complaint about "bad windows" could belong to any of the following categories in table 9:18: construction, security, microclimate, and even crowding or sharing of facilities, depending on the function of the window. In all cases the complaints concern the spatial organisation of the houses.

There are also other replies classified under "security" or "microclimate" which concern spatial organisation:

- It is a bit too hot compared to some private Swahili type houses with another type of roof and ceiling board. (NHC S house)
- The courtyard walls are so low that thieves can jump in easily. (NHC S house).
- The house is easily invaded by thieves, especially when there is no one at home. (F house)

The last example shows that security is not only a question of the standard of construction, but also of social relations. The sharing of facilities, as in the S houses, might increase security because if many people live in the same house it is more likely that someone will be home to protect the place from theft. Replies classified under "sharing of facilities" are as follows:

- The sharing of facilities like bathroom and latrine is unhealthy. (NHC S house)
- There is a lack of separate outlets which would give each family more freedom of movements. (NHC S house)
- Using the same main door is a problem because people don't sleep at the same time and therefore a late-comer must cause inconvenience for others. (NHC S house)
- We live with people of different standards of education. (NHC S house)
- Being so close to each other my family has conflicts in interests with neighbouring families. (Q house)
- They are not "noise-proof". They easily transmit noises from outside. (Q house)

It is obvious that these replies are expressions of the spatial organisation of the houses. The figures in table 9:18 indicate that in this respect there are important differences between the house types. It may be noted, however, that only 10-12 per cent of the replies in the S houses touch on this problem.

Finally, replies under "hygiene" constitute a mixture of such which are and are not related to spatial organisation. Some of the former are listed below:

- The latrines are very close to the rooms. (NHC S house)

- Sharing the corridor makes it difficult to keep the house clean. (NHC S house)
- Kitchen is very close to the latrine. (Q house)
- Latrines are in one compartment. (Q house)

The last two complaints are very frequent in the Q houses, which means that the figures in table 9:18 are really a reflection of dissatisfaction with the spatial organisation of the house, even if some of the replies take the form of complaints about bad service by the NHC (repairing latrines) or the City Council (emptying latrines).

Although the categories in table 9:18 do not distinguish strictly between spatial and non-spatial aspects, the analysis above shows with sufficient clarity that the replies about problems with the house type do reflect the differences in spatial organisation between the house types.

9.13 Conclusions

For the discussion of assumption 1 I have constructed and discussed eight sub-assumptions. Of these, assumption 1¹ was rejected and concerning assumption 1² the method of investigation and the number of observations were considered inadequate. The remaining six assumptions are supported in the sense that strong differences in the applied measures have been found between the house types. However, the underlying assumption that it is the differences in spatial organisation which are decisive for one's attitudes towards the house types has not been supported. On the contrary, for assumptions 1³, 1⁴, 1⁵, 1⁶ and 1⁷ larger differences have been found between the two urban Swahili type houses, which are of the same spatial organisation, than between these two house types together and any of the other two house types. This means that the assumption that daily life of the inhabitants of the urban Swahili type houses is seriously disturbed by the collective spatial organisation of this house type, must be rejected.

These conclusions do not imply that the role of spatial organisation is unimportant or impossible to trace. Concerning the measures used for discussing assumptions 1⁴ (satisfaction with last change of residence), 1⁵ (inclination to move) and 1⁷ (positive, neutral, negative attitude), these may be too general to say anything about the spatial organisation of the house types. But in assumptions 1², 1³ and 1⁶ the reasons for appreciation of previous housing experiences, for leaving previous house and for desire to move from present house are analysed, and then it can be said that references are made to the spatial organisation of the respective house types, depending on how the replies are interpreted.

The house types analysed in this thesis are characterized not only by their respective spatial organisation, but also by differences in building materials, methods of construction, age, rent level, groupings, tenurial relations, their social compositions etc. Therefore it is probably difficult to distinguish the spatial organisation from other qualities of

the house type. One may even ask if it is possible for the respondents to make a clear distinction between the house and the housing area. The replies to the two attitude questions in which such a distinction was made, revealed that attention was focussed as intended, but this does not mean that replies about, for instance, reasons for desire to leave, distinguish clearly between life in one's own house, the house type and the housing area.

Studies of Boston's West End redevelopment area have shown that there was a strong correlation between the attitude to one's apartment and that to one's housing area (Fried & Gleicher 1961:312, Hartman 1963:121). The studies also showed that it is social life in the area which determines satisfaction and that the role of the apartment is unimportant to one's general attitude. Hartman goes as far as to state that "objective housing quality was almost irrelevant as a determinant of housing attitudes" (p 122).

In this study one may ask for both the role of the house type in one's total housing situation and for the role of the spatial organisation in the house type.

The characteristics of the house types mentioned above coincide to a large extent with the components of a "housing situation" mentioned in section 9.1. The lack of a clear distinction between a "house type" and a "housing situation" does, of course, promote confusion. In section 9.3 and 9.6 the proposed division into components is strongly questioned and it is obvious that it is not especially fit for tracing the role of the spatial organisation of house types. This point can be made clearer by comparing the divisions used here with those made in other housing studies. I have selected the following three studies for comparison:

- G.W. Amartefio; D.A.P. Butcher & D. Whitman: "Tema Manhean - A Study of Resettlement", Accra 1966. This study of a relocation scheme asked for the good and bad characteristics of the old and the new houses.
- Peter Hoad: "Report on a Socio-Economic Survey of Kinondoni", Dar es Salaam 1968 (mimeo). In this study of 91 NHC one-family units one question concerned "dislike of house".
- R.E. Mitchell: "Social Implications of High Density Housing - The Case of Hong Kong and Other Major South-East Asian Cities", UN 1970 (mimeo). In this study, which is focussed on the problem of crowding, the respondents were asked "Which of the following things about your present dwelling are you most dissatisfied with?"

In these studies divisions into various types of reply have been used as shown in table 9:19.

A factor like rent is included in all three studies, although point 3 "Economic factors" of Amartefio et al comprises more than just the rent. Point 4 of Amartefio et al, point 4 of Hoad and points 4, 8 and 10 of Mitchell are not identical. For instance, health aspects are missing in "Hoad's division, while point 8 of Mitchell relates both to health and services. My category of "crowding" is equiva-

Table 9:19. Categorization of replies about housing in three different studies.

Amartefio et al

1. The buildings themselves
2. The siting of the house and village
3. The economic factors
4. The services & health
5. The emotional and sentimental factors

Peter Hoad

1. Position of house
2. Size of house
3. Layout of house
4. Services
5. Structure of house
6. Doors/windows
7. Rent

Mitchell

1. High rent
2. Kind of people who live here
3. The amount of space
4. Cleanliness of building
5. Neighbours are too nosey
6. The noise around here
7. People look down on this type of housing.
8. Lavatory facilities
9. Kitchen facilities
10. Water and electricity

lent to point 3 of Mitchell, but is it equivalent to Hoad's point 2? In the scheme of Amartefio et al it is unclear whether a complaint about overcrowding would fall under point 1 or point 5. What is in fact meant by "the building itself" - is it equivalent to points 2, 3, 5 and 6 in Hoad's scheme?

In the three studies it can be seen that the object of study has determined the division into components, but this is not explicitly stated and the divisions are not further motivated. What is even more serious is that the problem of classifying replies is not discussed at all. How does Amartefio et al distinguish between "emotional and sentimental factors" on the one hand and all the other factors on the other? How does Hoad distinguish between the size of the house, the layout of the house, the structure of the house and doors/windows? And why does Mitchell make a distinction between points 2, 5 and 6?

The object of this study is to distinguish the influence of the spatial organisation of the house types which should determine the division into components. One may say that the applied divisions have not served their purposes, but I think that the mistake lies less with this factor than with the fact that assumption 1 is based on a false premise: There is no direct correlation between the spatial organisation of house types and general attitudes to one's housing situation. This does not mean that there is no correlation at all. Special correlations remain to be investigated.

This conclusion is coherent with other observations in recent years and cannot be called sensational, but I have made it a point to carry the analysis to its logical conclusion as I think that ideas about such a simple relationship are still common. Another reason to devote some times for discussing assumption 1 in its various forms has been the desire to present the social situation in the respective house types.

I do not, however, think that it is correct to conclude that general attitude questions are useless for assessing what has been called user's requirements on houses. Instead I fully agree with Vere Hole when she says that "housing is a social process, and survey data must be interpreted in terms of this process" (1968:5). General attitude questions may thus be useful provided that one has a good theory about society as a whole.

From the analysis in this chapter it is evident that the four studied house types are associated with different social status and I believe that the role of the objective housing qualities for the degree of social status can only be understood if seen in relation to the dominant ideological formation of the society.

I do, for instance, think that the low status of the mud-and-pole urban Swahili type house depends less on the fact that constructions are sometimes deficient, than on the fact that this house type has been the object of slum clearance. How can people interpret the official slum-clearance policy except by seeing it as proof that this house type is considered unworthy for habitation? Similarly it is evident that people with a high social status demand more "bourgeois" houses, e.g. the nuclear family oriented units built by the NHC, and that this opinion is spread to less "Europeanized" strata of the urban population.

Because of the nature of attitudes to reflect a relationship between an ideological climate and an objective reality it is usually not possible to say that expressed attitudes about one's housing situation are measures of the qualities of houses (type, area or individual house). In the case of the analysis in this chapter I feel inclined to conclude that the replies to most questions rather reflect the general ideological climate than the objective qualities of the respective house types. In the way I use the term "ideology", it is not primarily a question of personal opinions, but rather an expression of social norms, social class and stage of economic development, all factors which influence the formation of attitudes.

The fact that we are dealing with a complex system does not mean that we must fall victim to complete relativism. Again, I want to quote Vere Hole:

"This concept of relativity does not mean that one is dealing with phenomena which are so ephemeral, chaotic or lacking in recurring relationships as not to be amenable to scientific study." (p 3) -
"Faced with meaningful alternatives then, people are well able to discriminate." (p 5)

I think that most of the interview questions discussed in this chapter were too general to give meaningful replies to the stated assumptions. When describing the general housing situation and the social situation in the respective house types they have been meaning-

ful, The only question which I consider really meaningful in relation to assumption 1 is the one discussed in section 9.11 and 9.12. People were asked to specify problems with their house type, and I think that the replies show that most of them are well aware of such problems and able to articulate their opinions. The replies provide a useful empirical definition of the respective house types, which should be used in the later discussion of this thesis. Although the 11 factors presented in table 9.18 are

closely interlinked, the division into components is more relevant to the object of the study than the divisions used in sections 9.3 and 9.6. In section 9.12 an attempt is made to distinguish those aspects which are from those which are not, related to the spatial organisation of the respective house types. I propose to use these specifications as an empirical definition of "spatial organisation" to be applied in the following chapters.

10 Use of dwelling space

Contrary to general attitudes to one's housing situation, which can not be seen as simple reflections of one's physical environment, spatial behaviour is necessarily and directly related to the spatial organisation of buildings. After having run into difficulties with the ephemeral attitudes in the previous chapter it is therefore tempting to turn to "earth-bound" spatial behaviour. Robert Sommer - who has studied behaviour in classrooms, cafeterias, bus stations and libraries - provides a good argument for this procedure by saying that spatial behaviour is largely unconscious and that "it therefore would be more profitable to observe space usage directly rather than to ask people what sort of arrangement they prefer" (Sommer 1970:256).

In the belief that the observation of space usage will reflect not only trivial relationships, as mentioned in section 6.2, but also important aspects of social life, I want to present, in this chapter, as accurately as possible, a picture of the use of dwelling spaces in the respective house types. As this assumption and this procedure might not be self-evident I will motivate further by referring to other studies of activities in relation to time and space.

10.1 The value of use studies

The above quotation from Sommer carries the implication that space usage reflects not only how people act, but also how people prefer to have space arranged. This "behaviourist" position is dangerous because spatial behaviour is overinterpreted so that adaptations to space are seen as evidence that spatial arrangements are satisfactorily made. The danger to come out in defence of status quo is even stronger if human behaviour is seen to reflect inherent qualities in man, mainly determined by natural laws. This view is easily adopted when extrapolating human behaviour from animal behaviour as in the anthology "Behavior and Environment: The Use of Space by Animals and Men", edited by Aristides Esser (1971).

Because of these behaviourist tendencies within the field of study I want to state that I fully agree with William H. Michelson when he says that use studies should be employed "for eliciting accurate descriptions of behavior, not opinion" (1970:211). Michelson convincingly argues for the employment of time and activity budgets when studying man in relation to his urban environment. He finds that

"While participant observation and poll-type interviewing can give glimpses of the same data, time and activity budgets can serve as the basis for extremely fine

environmental comparisons in time and space..." (Michelson 1970:212)

A similar opinion has been expressed by W.H. Ittelson, L.G. Rivlin and H.M. Proshansky in the last essay of their anthology "Environmental Psychology - Man and His Physical Setting" (1970). In the essay, which is called "The Use of Behavioral Maps in Environmental Psychology", the authors postulate that "behavioral mapping... is a very general technique for studying environmental influences on behavior" (Ittelson et al 1970: 658).

The employment of time and activity studies has been explored by a research team at the Department of Cultural and Economic Geography, University of Lund. Its bibliography on time use and ecological organisation, covering about 280 titles from several language areas (Carlstein & Mårtensson 1967), indicates that the activity dimension usually attracts the main interest, while the time and space dimensions are often neglected or only treated superficially.

Use studies have been employed at different levels of physical planning. At the regional planning level elaborate studies of household activity systems and of patterns of time and space use have been made, for instance, at the Center of Urban and Regional Studies, University of North Carolina, USA (Chapin & Hightower 1966; Chapin & Logan 1969). These studies are not relevant to the problems in this thesis except where classification of activities is concerned.

Use studies at the building level have been employed for several decades in certain European countries. However, among architects, the problem of use of space has largely been a question of the designer prescribing a certain use by giving labels to various spaces, like "living room", "bedroom", "storage" etc. This "expert" view is clearly demonstrated in a report called "Utilization of Space in Dwellings", produced by the International Union of Architects in cooperation with United Nations (UN 1959). In this study comparisons between patterns of space usage in different Western countries are based on standards deduced from examination of type plans and not from studies of actual usage.

The studies I consider most relevant to the analysis in this chapter are such which present activities according to time and dwelling space as they occur in reality. In Sweden pioneering work in this field has been made by Lennart Holm (see his thesis "Famili och bostad" 1956) and by Carin Boalt (e.g. "1000 husmödrar om hemarbetet" 1961). In these studies time-activity diagrams and

time-space diagrams are fruitfully used. Holm (1956:102) presents two different types of time-space-activity diagrams, which I find applicable to my study of house types in Dar es Salaam. Another contemporary study (Holm & Holm 1958) also deduces interesting differences between various plan types from time-space diagrams.

Use studies have also been employed in the "third world" countries in recent years. A good example is a study of women's domestic activities in a relocation low-cost housing area in Ghana (Amartefio et al 1966:51). Gupta (1968) has employed use studies not only to evaluate various house types but also to assess differences in use of space between low and high income groups. The same has been done by Richard J. Martin in his study of gardens and outdoor living in Lusaka low-cost housing areas (Martin 1972).

In the Tanzanian context I have come across only one study of time-space usage at the micro-level, namely a survey of five villages in Musoma rural district made by the Rural Home Economics Training Centre (Rural Home 1969). Unlike the other studies mentioned above, this one is based not only on interviews but also on observations. (Unfortunately the methods of investigation are not discussed and not related to the very detailed results presented.)

There are no earlier use studies made of the house types discussed in this thesis. The only records available are those made by visiting eye-witnesses, presenting very generalized and superficial descriptions of space use in the house. One of the most vivid "outside" descriptions is that made by Leslie in his "Survey of Dar es Salaam" (1963). In my participant observation study I have compared my own impressions of space usage in an urban Swahili type house with those of Leslie (section 7.4). The assumptions presented below are mainly influenced by these two experiences.

10.2 Definition of the problem

The main assumption to be discussed in this chapter can be formulated as follows:

Assumption 2: The differences in spatial organisation between the house types are reflected in differences in use of dwelling space.

The purpose is to assess the differences in behaviour between the house types. But it is not just any aspect of the house types which is to be studied; it is the spatial organisation as defined in section 9.12. This means that other characteristics of the house types have to be isolated from the influence of the spatial organisation before conclusions can be drawn.

To those who undertake to construct "behavioural maps" Ittelson et al have the following advice:

"Before empirical work can be carried out, however, decisions have to be made as to what kinds of behavior are relevant to the problem being studied. A basic decision, even before the types of behavior are considered, is whether the focus is to be the behavior of individuals or the behavior of groups." (Ittelson et al 1970: 660)

The observation study was to observe individuals, defining the behaviour to be studied as "use of dwelling spaces". This concept consists of three dimensions: time, activity and dwelling space. Of these I consider "activity" to be most problematic. It is obvious that activities relevant to the use of space can be divided according to a number of different principles. Each activity complex can be divided into various activities, and each activity can be divided into sub-activities. Thus, for instance, Chapin & Hightower (1966:76f) are using a classification code comprising nine activity complexes, 62 activities and 97 sub-activities, while Amartefio et al (1966:5) employ a list of only 14 "domestic activities".

When explaining how I have proceeded, the three-step-procedure suggested by Ittelson et al (1970:660) can be used:

1. "Cataloguing observed behaviors". This was done in the participant observation study and in the test observations made at the beginning of the observation study.
2. "Generalizing the behaviors into categories for observation". This is mainly a methodological problem. The procedure is discussed in sections 8.2 and 15.7. Definitions of activities are found in appendix no 3.
3. "Combining observational categories into analytical categories". How this was done can be seen in table 10:1.

Table 10:1. Division of activities into observational and analytical categories.	Observational category	Analytical category I	Analytical category II
	1. Sleeping	1. Sleeping	1. Sleeping
	2. Cooking	2. Cooking	2. House work
	3. House work	3. House work	
	4. Personal hygiene	4. Hygiene & care	3. Hygiene & care
	5. Care (of children)		
	6. Plaiting hair	5. Playing	
	7. Playing		
	8. Receiving guests	6. Other	4. Other
	9. Nothing in particular		
	10. Other	7. Eating	
	11. Eating		
	12. Away at work	8. Away at work	
	13. Away shopping		
	14. Away for visit	9. Away (otherwise)	5. Away
	15. Away (otherwise)		

Analytical categories I were defined with the purpose of distributing them over dwelling spaces, while analytical categories II were defined with the purpose of distributing them over time. The two types of analytical categories were also determined by the desire to obtain a smaller number of categories for the design of diagrams. Thus "personal hygiene", "care" and "plaiting hair" - which are all relatively infrequent activities - have been combined into one analytical category: "hygiene & care". In one case, "cooking" has been separated from "house work", while in the other it has been made to comprise a varying number of activities.

For reasons described in section 8.1 observations of space usage were made in S and Q houses only. The problem of time and that of division into dwelling spaces are discussed in sections 6.3, 8.3 and 15.6. The problem of sleeping arrangements is discussed in chapter 11, where the overall use of dwelling space is also included in the discussion about various measures of crowding.

10.3 Patterns of movements in the houses

Perhaps the most obvious aspect of behaviour being influenced by the spatial organisation of houses is the way people move between dwelling spaces. It seems as if this factor has often been considered too trivial for scientific analysis as most space use studies ignore it. One of the few researchers who has included this factor in an analysis of house plans is Lennart Holm in his study from 1956, in which as many as 300 movements from one room to another are registered for house wives during a 12 hour period. Holm considers this investigation to be of little use because no significant differences in frequency of visits to the respective rooms are found between the flat types.

Within Swedish building research the movement studies have found their most fruitful application in the field of kitchen planning. Basic studies of the organisation of kitchen work were made already in the 40's by The Home Research Institute. Its successor, The Swedish Consumer's Institute has later complemented these studies and further developed the methods of investigation. In a more recent report by the Institute (Sundberg et al 1969) the earlier kitchen studies are evaluated and compared to a new elaborate investigation of movements within two principally different types of kitchens.

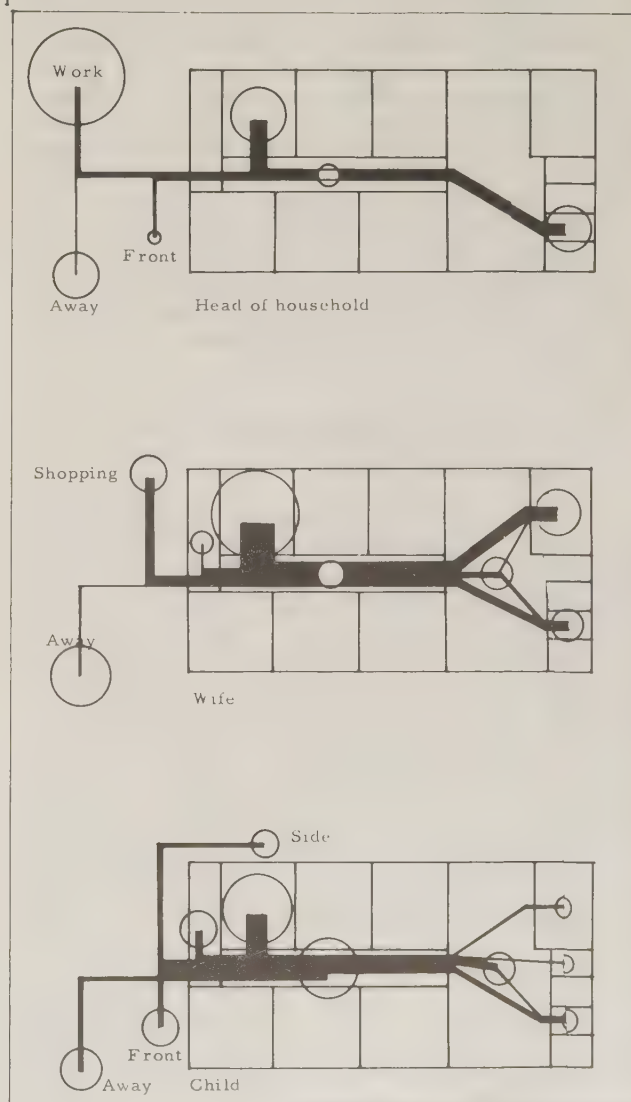
Historically one can say that the Swedish kitchen studies have had a comparatively strong influence upon the construction of kitchens. Although not explicitly stated, the "ideology" behind these studies is one of efficiency: it is assumed that the best kitchen is the one which minimizes movements. Such a view might be justified in an industrialized society where house work is a complex and time-consuming activity competing with other activities demanded by society. But in a non-industrialized society, where house work might be a simpler matter and competition with other activities less

significant, minimizing movements in the house might not be as high up on the list of priority.

Without denying that efficiency, accessibility and comfort in use of space could be desirable in the urban Swahili and Quarter type houses I want to emphasize that this is not the objective of the discussion below, it is rather to examine assumption 2 about differences in behaviour between the house types.

Figures 10:I and 10:II illustrate the movements of the head, the wife and a child of one household in an urban Swahili and a Quarter type house on a plan of the respective house types. As registration has only been carried out every five minutes it is probable that certain shifts of dwelling space have not been included, but nevertheless I estimate that the figures include the main features of the movement patterns. The thinnest line represents two movements (back and forth), while the thickest line represents about 18 movements. The surface areas of the circles are proportional to the amount of time spent in the respective dwelling spaces (altogether 15 hours of observed time). If the circles were to cover all 24 hours of the day, the circles of the private rooms would be in-

Figure 10:I. Movement patterns in the urban Swahili type house.



creased with about as large an area as the largest of the circles in the figure.

Figure 10:I (examples from S houses) shows that the head of household spends most of the time he is awake away from home and that most of his movements at home are those between the private room and the bath/latrine. The wife spends most of her time at home and she moves principally between the private room, the outbuilding, the backyard and the nearby shop. The movement pattern of the child has more "stations" than that of the wife. It is also somewhat more oriented towards the front of the house.

Figure 10:II (examples from Q houses) shows that the head of household moves very little at home: he stays in the private rooms and pays only a couple of brief visits to the bath/latrine and the kitchen yard. The movements of the wife are almost entirely concentrated to the area between the room(s) and the kitchen. The figure for the wife also shows that she has made a few short visits to neighbours, both in the same house and in adjacent houses. The child in this household registers fewer movements although the number of "stations" is greater.

Where differences between the two house types are concerned, it is obvious that the respective spatial organisations impose different movement patterns. In this sense assumption 2 is definitely supported - one may almost say irrespective of whether the examples shown are typical or not. The movements are more concentrated in the Quarter type house. From an efficiency point of view this house type can be termed more functional, but whether this also implies better comfort and accessibility can not be established in this manner.

In order to assess whether there are more "interesting" differences in space usage between the house types I will analyse the statistical data from the observation study in the form of various types of diagrams.

10.4 Use of dwelling space in the urban Swahili type house

Before discussing some specific assumptions, the findings derived from figures 10:III and 10:IV will be presented. In these figures the activities, divided into analytical categories I, are distributed over dwelling space. The surface area is proportional to time spent for the respective activities in the respective dwelling spaces. The table only includes time spent in and around the house between 7 a.m. and 10 p.m. The total surface area of the two diagrams are identical in size, although people in the Q houses on average spend a little less time at home, and this means that the partial surface areas should not be measured in hours or minutes but in per cent of total time spent at home.

As regards the private rooms in the S houses, figure 10:III shows that "other" is most dominating, followed by eating and house work. Almost 80 per cent of all the eating (at home) is done in this dwelling space. A considerable part (26 per cent) of the cooking

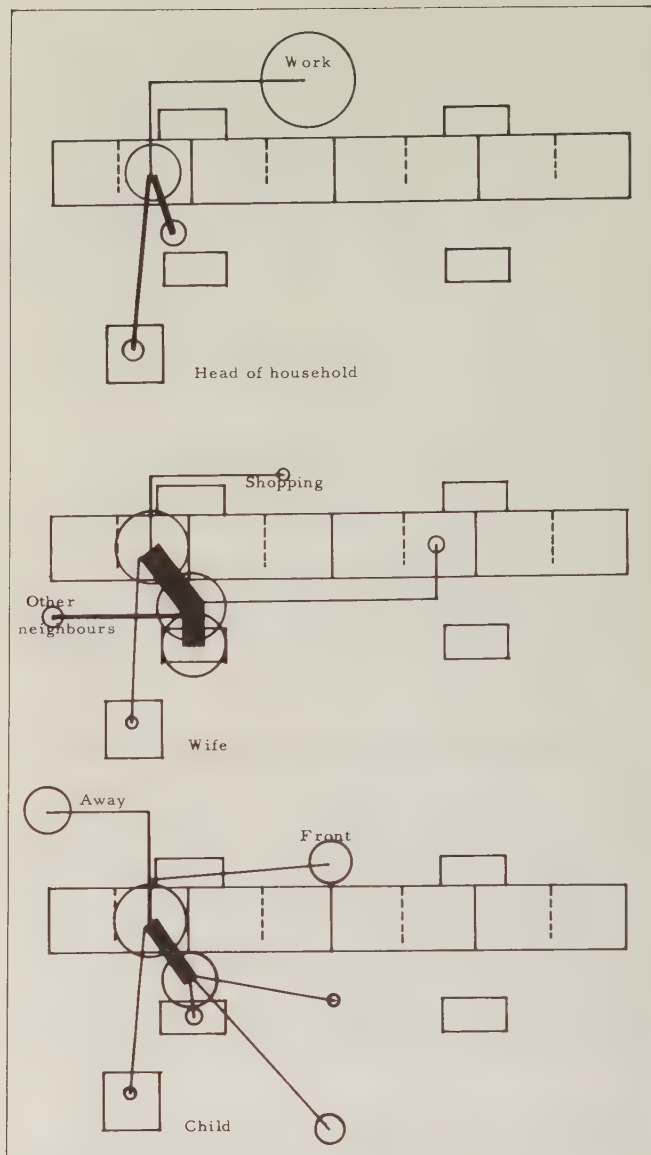


Figure 10:II. Movement patterns in the Quarter type house.

is done here. Hygiene & care and playing are also registered in the rooms. All the figures for the private rooms must be regarded with considerable precaution as these dwelling spaces could not usually be observed directly (cf section 15.8). Of course, sleeping is by far the most important activity if all 24 hours are to be included.

The corridor has a distribution of activities similar to that of the rooms. The nature of being a space for social intercourse is evident from the high proportion of playing (18 per cent) and "other" (46 per cent). A considerable part of all the house work (13 per cent) is done in the corridor. The same proportion of all the eating takes place in the corridor. If all meals are of the same duration, this means that in average every eighth meal is taken there. The corridor is also used for some cooking and hygiene. After the private rooms and the back yard this living space is the most important one, accounting for 12 per cent of all the observed time at home.

In the case of the verandah, the character of being a space for social intercourse is even more strongly emphasized. Playing and "other" account for 89 per cent of the activities there. A closer analysis of the activi-

ties under "hygiene & care" shows that about half of all the plaiting is done in the verandah (the other half is registered in the corridor). The plaiting of hair is considered to be an important expression of neighbourly contacts. No house work is done in the verandah.

The most important activity in the back-yard is house work (washing clothes, sweeping, washing dishes etc). This activity accounts for 56 per cent of all time spent there and constitutes about half of all the house work observed in and around the house. Almost 20 per cent of the hygiene & care is done there. Playing and "other" accounts for only 25 per cent of the activities in the back yard. The character of being a working space is dominant. This may partly be due to the location of the cemented wash place, the "kalo", in this dwelling space (see figure 7:V). The back yard is the most frequently used dwelling space after the private rooms (14 per cent of all the observed time at home).

About 2/3 of all the cooking is done in the kitchen, which also means 2/3 of the activities there. Besides cooking, some other house work was observed in the kitchen. Playing and "others" amount to only 11 per cent of the activities in the kitchen. Thus the kitchen in the S houses can be characterized as a one-purpose dwelling space.

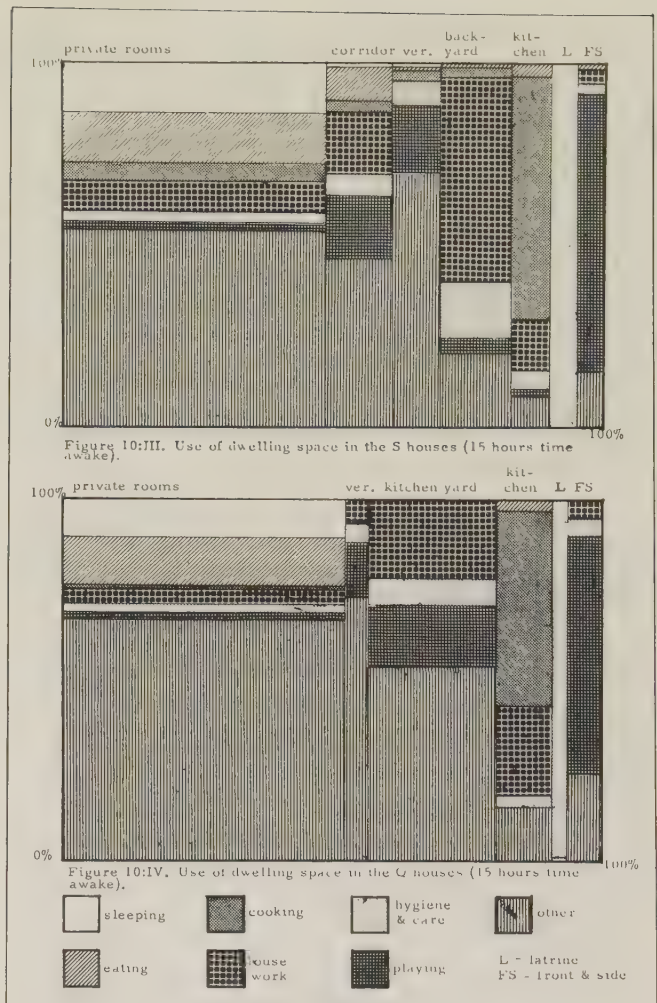
The bath and the latrine also serve one purpose. 5 per cent of all daytime activities in the S houses are registered in these two spaces together.

The same amount of time is calculated for activities around the house. By far the most frequent activity here is playing, which accounts for 2/3 of all time spent there and which constitutes 38 per cent of all the playing at home. Surprisingly enough this gives the front and side of the house a character of a one-purpose area.

10.5 Use of dwelling space in the Quarter type house

If the space in front of the kitchen in the Q house is regarded as equivalent to the back-yard in the S houses the division of activities and spaces is the same in the two house types, except that no corridor exists in the Q houses. The distribution of activities over dwelling spaces is shown in figure 10:IV. Below, the diagram is analysed and compared with that of the S houses.

Activities in the private rooms account for a proportionally longer time in the Q houses (52 per cent as compared to 46 in the S houses). Although reservations have to be made about the accuracy of the observations of the private rooms, time for cooking and house work is considerably shorter in the Q houses (altogether 5 per cent as compared to 13 per cent in the S houses). About 2/3 of the time in the private rooms is devoted to "other". As much as 95 per cent of the eating (at home) takes place there. No division of functions between the two rooms is made and therefore the differences in space usage bet-



ween the "bedroom" and the "living room" can not be analysed (cf section 10.12).

The same reservations as above have to be made for the verandah as the observers were usually sitting on the other side of the house (see section 15.8). The fact that half as much time as in the S houses is spent in the Q verandahs (4.5 as compared to 9 per cent) is not altogether explained by lack of accuracy. The small size of it might be another reason for its low attraction. The distribution of activities there is similar to that of the S house, except that some more house work is done in the Q verandahs.

What is called the kitchen yard seems to be a very important dwelling space, evidently covering the functions of both the back yard and the corridor of the S houses. It accounts for 24 per cent of all observed time at home, which compares well to the 25 per cent for the corridor and backyard together in the S houses. Half of all the house work is done in the kitchen yard, 29 per cent of the hygiene & care and 39 per cent of the playing.

The activities of the kitchen yard are closely connected with those of the kitchen. Although the kitchens of the Q houses are much smaller than those of the S houses their one-purpose character is less distinct. Cooking accounts for only 54 per cent of its use (even if this means 94 per cent of all cooking registered), leaving 25 per cent of its use for house work and 15 per cent for "other". The kitchen accounts for 10 per cent of the observed time spent at home, compared to 7.5

per cent for the S houses.

On the other hand, the latrine, which also serves as a bathing place, accounts for only half the time of that in the S houses. This might be partly explained by inaccuracy in observations.

Finally, the spaces around the house shows almost the same distribution of activities as in the S houses, although proportionally a little more time is registered around the Q houses. 43 per cent of the playing is done here, as compared to 38 in the S houses.

10.6 Assumptions about specific dwelling spaces

With the findings in the two previous sections as a point of departure we may now examine a few partial assumptions about specific dwelling spaces.

In his report of the Kinondoni housing study Hoad (1968) postulates that private "rooms are mainly for sleeping and storage and need not be large" (p 8). The Kinondoni study covers mainly one-family units, but Hoad's statement is also meant to apply to other house types, which becomes apparent from the following quotation:

"As educational levels and income rise, however, there is likely to be a move towards living within the house. Running water and electricity make it more convenient to wash and cook indoors, while buying furniture encourages eating and sitting in a 'living room' and electric light makes it possible to do more in the evenings." (Hoad 1968:3).

Almost all of the studied urban Swahili type houses lack water and electricity. Most of the Q houses have electricity but lack individual water supply. The average income and education are considerably lower in the S and Q houses than in the F houses, which means that Hoad's assumption about the private rooms ought to be even more applicable to the S and Q houses than to the F houses. As there is a difference both in social status and in the supply of electricity between the S and Q houses an assumption could be formulated in the following way:

Assumption 2¹: The private rooms are mainly used for sleeping and storage, especially in the S houses.

Figures 10:III and 10:IV show that the private rooms are by far the most important dwelling spaces in both the S and the Q houses in the sense that as much as half of the observed time at home is spent there. The private rooms are also important in the sense that many other activities apart from sleeping take place there. Therefore the first part of assumption 2¹ is not supported.

Concerning differences between the S and Q houses, occupants of the latter spend a relatively larger proportion of their time in the private rooms (52 as compared to 46 per cent in the S houses), but in absolute figures there is no difference at all (Q occupants are away from the house somewhat more). Thus the se-

cond part of assumption 2¹ is not supported either.

It may be concluded that Hoad is wrong when saying that private rooms need not be designed for activities other than sleeping and storage, unless he argues that no other activities should take place there. He may still be right, however, regarding differences in use of space between house types of different social status (see section 10.8).

*

The following assumption can be formulated about the corridor in the urban Swahili type house.

Assumption 2²: The corridor in the S house functions as a living room.

Such a statement is implied in Leslie's description:

"The passage varies as a living space; in some houses it is much in use, two or three persons sitting there polishing stoves or pans; in others it is empty..." (Leslie 1963:69).

What is implied in saying that the corridor serves as a living space is not quite clear, but I take it to imply both that a substantial amount of time is spent there, and that there is a variation of activities with an emphasis on "social intercourse".

Figure 10:III shows that the corridor is the third most frequently used dwelling space and that there is a great variation of activities, including a fair amount of eating, house work as well as hygiene & care. A large part of the latter activity consists in plaiting hair, which I think is an important aspect of social intercourse. The same is true about eating in the corridor, the largest part of which concerns house wives eating together. Playing, house work and "other" also include a large amount of social intercourse. Thus assumption 2² seems to be supported in both senses.

Whether or not the living room function of the corridor comes into conflict with its function as a space for communication can not be decided on the basis of the above analysis. I think that it is largely a question of the width of the corridor. Unfortunately the collected data do not permit a closer analysis of the relation between the width of the corridor and the activities performed there. For further discussion, see section 11.8.

*

The verandah is an outdoor but roofed dwelling space to which the breeze has access both in the S and the Q houses. Leslie (1963: 71) states that in the Swahili houses men gather there in the evening to talk together and to passers-by. In the participant observation study I got the impression that it is often used by women as well, mainly for social intercourse and resting.

It can be assumed that households with only one private room, like most of those in the S houses, are inclined to use the verandah for receiving guests and for other living room

functions more often than households with two or more private rooms as is usually the case in the Q houses. Furthermore, if the urban Swahili type houses are unsuited to the hot and humid climate of the coast, while the Quarter type houses provide for better air circulation, it is reasonable to assume that the verandah as the only cool dwelling space of the S houses is more attractive than that of the Q houses. Also the larger dimensions of the verandah in the S houses could be expected to influence its use. This can be formulated as follows:

Assumption 2³: The verandah serves the function of a living room, especially in the S houses.

Figures 10:III and 10:IV show that in both the S and Q houses almost 90 per cent of the time in the verandah is devoted to playing or "other" (mainly equivalent to "doing nothing in particular"). Most of the hygiene & care registered in the verandah consists of plaiting hair. Therefore it can be concluded that the first part of assumption 2³ is supported.

The main difference between the house types is that in the Q houses the verandah is used only half as often as in the S houses. Another difference is that the verandah in the Q houses is more often used for house work. Both these factors are taken as indications that also the second part of assumption 2³ is supported.

*

Concerning other dwelling spaces I have found no statements of a principal interest about differences between the house types, and thus no specific assumptions have been formulated. Nevertheless a few comments can be made about these spaces.

The back yard in the S houses is much more a working area than the kitchen yard in the Q houses, but if the latter is seen as identical with the back yard and the corridor together in the S houses, then this difference is less striking.

The distributions of activities in the kitchen are almost identical in the two house types. The difference in time can probably be explained both by the fact that more cooking is made in other dwelling spaces in the S houses and by the fact that time is more often spent on the "threshold" of the kitchen in the Q houses. For further discussion about the problem of cooking, see section 10.11.

10.7 Use of different types of dwelling spaces

In sections 6.3 and 6.4 the reasons and procedure for dividing the dwelling spaces in the respective house types into private/communal, protected/exposed and indoor/outdoor were presented. I thought that the differences between the house types in these respects would be reflected in differences in use of space. Employing the divisions as defined in figures 6:II, 6:VI, and 6:VII time spent in the respective types of dwelling spaces in the S and Q houses is distributed as shown in fi-

gure 10:V. People in the S houses spend an average of 9 hours and 18 minutes of the observed time at home, while those in the Q houses spend only 8 hours and 24 minutes at home.

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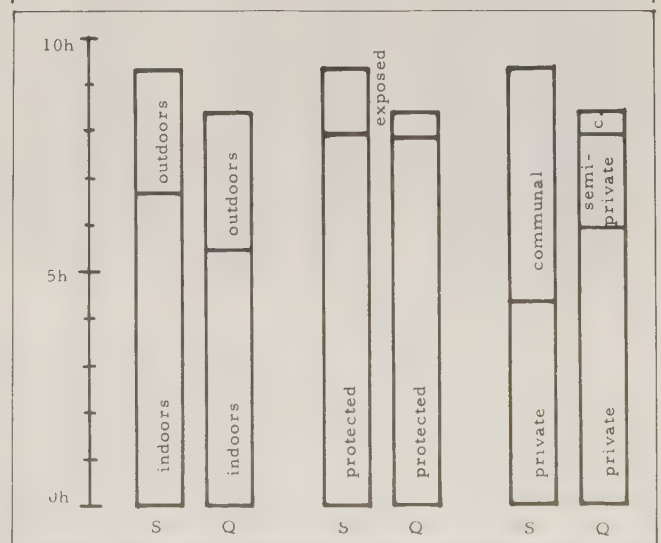
In section 6.5 it was mentioned that the differences in micro-climate between the house types could be expected to be reflected in differences in use of indoor and outdoor spaces. More precisely it is assumed that the lack of cross-ventilation in the S houses forces people outdoors to a greater extent. Although no specific investigation of the indoor and outdoor climate has been made in the two house types, the following assumption can be examined:

Assumption 2⁴: People in the Q houses spend more time indoors than people in the S houses.

The first part of figure 10:V shows that more time is in fact spent outdoors in the Q houses (35 as compared to 28 per cent of all the observed time at home in the S houses). Therefore the assumption is not supported. This does not mean that there is no difference in microclimate between the house types - other factors might also be at work. Martin (1972:25) suggests, for instance, that it might be regarded as more "respectable" to stay inside in a certain community and that poorer people in the two "richer" areas of the three areas studied are more likely to stay indoors. Another observer (Pfister 1968:14) indicates that the use of outdoor space depends on whether or not it is private.

I am surprised to note that such a large proportion of the time awake spent at home is in fact indoors in both house types. Whether this means that there is no important difference between indoor and outdoor microclimate can only be assessed by making a special climatic study. Whether it means that there are practical or social reasons for staying indoors also remains to be analysed.

Figure 10:V. Observed time spent in dwelling spaces classified in indoors/outdoors, protected/exposed and in private/communal in the S and the Q houses.



*

Where differences in use of space exposed to the outside and protected from insight are concerned it can be said that it is mainly a question of the verandah and thus that assumption 2³ covers this aspect. Except for the verandah the front and the side of the houses are the only dwelling spaces exposed to passers-by. Proportionally twice the time is spent in exposed areas by people in the S houses (15 per cent as compared to 7 per cent in the Q houses). However, these measures are very uncertain, partly because the demarcation between protected and exposed dwelling spaces cannot be drawn with any high degree of accuracy in case of the Q houses (see section 6.4), and partly because observations of the exposed spaces in the Q houses are considered less reliable than those of other spaces (see section 15.8.).

*

As to differences in use of private and communal dwelling spaces, there are several reasons to assume that communal dwelling spaces are in greater use in the urban Swahili type houses. The amount of (indoor and protected) communal spaces is greater than in the Quarter type houses (see figure 6:II). Most households in urban Swahili type houses have only one private room and therefore tend to locate more activities in communal dwelling spaces. They also carry less social status, which according to several observers implies that they are more "communally oriented".

Assumption 2⁵: People in S houses spend more time in communal dwelling spaces than people in Q houses.

The last part of figure 10:V shows that people in the S houses spend an average of five hours in communal spaces, while people in the Q houses spend only 34 minutes in such spaces. Even if the kitchen yard is counted as communal (and not semiprivate) only 30 per cent of the observed time at home is spent in communal spaces in the Q houses as compared to 53 per cent in the S houses. This is taken as a support for assumption 2⁵.

The distribution of time in what is here classified as private and communal dwelling spaces does not reflect the true amount of privacy or communal living in the respective house types. Activities considered private could take place in communal spaces and communal living obviously takes place in the private rooms.

10.8 Separation of activities

Several observers maintain that the use of dwellings develops towards a higher degree of separation of activities with economic and social development of society. For instance, Pironne (1963), as quoted by Misra (1971:46), has concluded that such a differentiation within the European medieval house took place in three stages. First, work was separated from

other activities. Second, dwelling spaces of the apprentices and workers were separated from those of the family of the head of household. And third, sleeping inside the family dwelling was separated from other activities.

Applying this schematic model to the Dar es Salaam context it may be established that in the market economy of the Tanzanian capital work is mainly a question of employed work. Handicraft work is seldom done at home. The only work (for a living) activity located at home is selling from a shop ("duka") or a verandah, usually in an urban Swahili type house. In the case of a shop, work space is clearly separated from living quarters. Also in case of a verandah being used for selling there is separation of work and living space, although a certain overlapping usually exists.

As regards the second stage one could say that it is inapplicable to the Dar es Salaam situation, but if the separation of workers from the family of the head of household is taken to cover separation of households within the house in general, then one could say that such a separation has taken place, especially in the Quarter type and NHC one-family houses. In the urban Swahili type house households are separate in comparison to the Pironne description of the European medieval house, but there is definitely less separation than in the Quarter type house. The same is true about the third type of separation mentioned by Pironne. In the Quarter type house living space is less separated from sleeping space than in the NHC one-family house, and in the urban Swahili type house such a differentiation is even less striking.

It is often assumed that separation of activities is a reflection of an increasing standard of living, of which an increasing number of dwelling spaces is an inherent part. Such a view is expressed by Vere Hole (1968) when she suggests that "the separation of activities into separate rooms is only available to large sections of the population in the most affluent societies" (p 3). I do, however, think that one can not take for granted that the number of dwelling spaces increases with the standard of living. Maybe the number of private rooms increases in a society oriented towards the nuclear family, but does a household in an "affluent" society have access to as many as 15 separate dwelling spaces like in case of the urban Swahili and Quarter type houses?

Furthermore, one can not take for granted that a differentiation of dwelling spaces is necessarily accompanied by a differentiation of activities. A researcher who has studied household activities in north Indian one-family houses makes the following comment on this problem:

"The available space in a dwelling is not divided into different zones on functional basis. Very few of the household activities are fixed to specific locations. One and the same activity may take place at different places in a dwelling depending upon the season, the weather, time of the day, and the presence or absence of formal guests etc." (Misra 1969b:43).

In the urban Swahili and the Quarter type houses there is no difference in the number of dwelling spaces according to my classification. There are, however, differences in social status. In accordance with the reasoning of Hole, Misra and Hoad the following assumption can be formulated:

Assumption 2⁶: There is a higher degree of separation of activities in the Q houses than in the S houses.

From figures 10:III and 10:IV it can be seen that the one-purpose character of various dwelling spaces is slightly less striking in the Q houses than in the S houses. The latrines of the Q houses are actually used for two purposes, bathing included. Playing dominates the area around the house by 2/3, otherwise no such strong dominance exists. Thus, it seems as if the assumption is not supported. But in another sense differentiation of acti-

vities is stronger in the Q houses. Almost all the eating is done in the rooms and almost all the cooking is done in the kitchen. 75 per cent of all the house work is done in the kitchen or the kitchen yard. If the rooms of the individual households were more closely studied this functional differentiation might be even more emphasized (cf section 10.12). Thus, although there are fewer one-purpose dwelling spaces in the Q houses, one may conclude that assumption 2⁶ is supported.

10.9 Position in household and distribution of activities

In the discussion above it has been implicitly assumed that differences in use of space between the house types are caused by differences in spatial organisation. Such an assumption can not be made automatically, however.

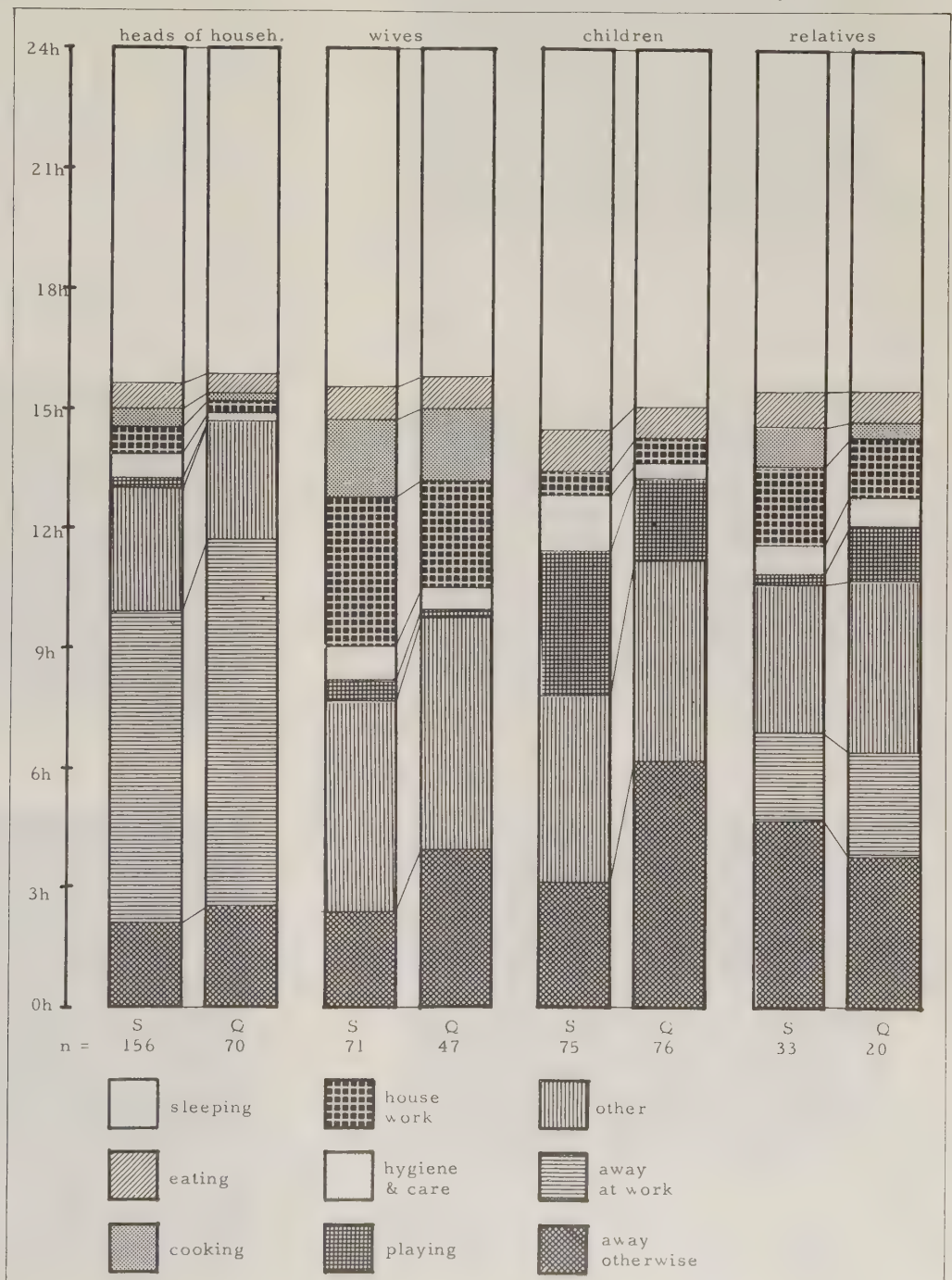


Figure 10:VI. Estimated use of time during 24 hours for persons of different positions in the household in S and Q houses.

Other factors such as the different social situation in the two house types might be the causes of differences in use of dwelling spaces.

I believe that the most important differences in the way various people spend their time depend on their differing positions in the household. I have therefore made separate presentations of the average distribution of activities for heads of household, wives, children and "others" (mainly relatives) as shown in figure 10:VI. In order to get as complete a picture as possible of how they spend their day, activities away from the house have been included. An attempt has also been made to estimate the activities of the remaining nine hours of the day (from 10 p.m. to 7 a.m.). For this purpose eight hours of sleep have been added to all persons studied.

For heads of household (hoh) the most dominating activity, besides sleeping, is "work" (for a living). Note that hoh include single men and women. In the S houses they spend one hour less at their work than in the Q houses. Altogether the Q hoh spend 11 1/2 hours away from the house, while the S hoh are away only 10 hours a day. The fact that the S hoh spend some more time for eating (at home), cooking, house work and care is probably due to the larger proportion of single men and women hoh in the S houses.

The wives are away from home only a few hours of the day (2 1/4 in the S and 4 hours in the Q houses). In both house types the most frequent activities of the wives are (in that order) "other", house work and cooking. For house work, cooking and care the S wives spend a little longer time than the Q ones. Time for eating and for "other" is identical.

For children playing and "other" are the most frequent of the activities at home, except for sleeping, which, of course, is more dominating for children than for adults. However, while "other" takes the same amount of time for S and Q children, playing is more frequent in the S houses (3 3/4 hours as compared to about 2 hours in the Q houses). Being cared for is almost four times as common for S children. Eating also takes somewhat more time for these, while time for house work is the same. Instead, the children in the Q houses spend considerably more time away from home (6 1/2 hours as compared to 3 1/4 in the S houses). I think these differences are due to the fact that the Q houses are older, that the children there are also older and that the proportion of school children is higher than in the S houses.

In the category of relatives both sexes and all ages are included. Their pattern of activities is a mixture of those for the three other categories.

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To conclude one may say that there are distinct differences in distribution of activities between hoh, wives and children. Hoh do most of the "work", wives most of the cooking and house work, and children do most of the playing. For these three categories of people those in the Q houses spend considerably more time away from home. In exchange they spend

less time for hygiene & care and for playing. Wives (and hoh) in the Q houses spend less time for cooking and house work. Time for "other" is the same in the two house types for hoh, wives and children respectively.

10.10 Time budgets

Figure 10:VI showed the average amount of time for various activities spent by people of different positions in the household, but not the variations over the day. Such variations can be presented in the form of time budget diagrams. Analytical categories II are applied. The purpose of this investigation is to study both the differences between the house types and those between people of different position in the household in order to find out whether or not the previously found differences are related to the spatial organisation or not.

The diagrams for heads of household (hoh), figure 10:VII, show that 50 per cent of the people observed in both house types leave home at 7 a.m. and that 85-90 per cent leave home at 8.30. Hoh start coming home at 1 p.m.; in the Q houses continuously until 10 p.m. and in the S houses until 5 p.m., when the curve turns almost horizontal. At 10 p.m. about 70 per cent are home in both house types. Most home activities take place in the afternoon and evening, "other" apparently increasing by time. At 10 p.m. this category of activities accounts for about 50 per cent in both house types.

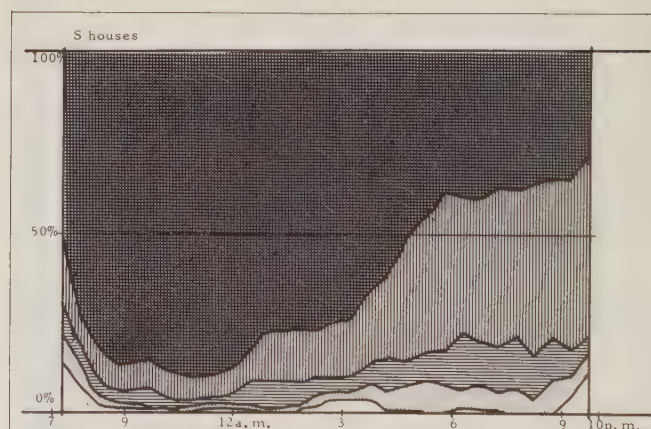
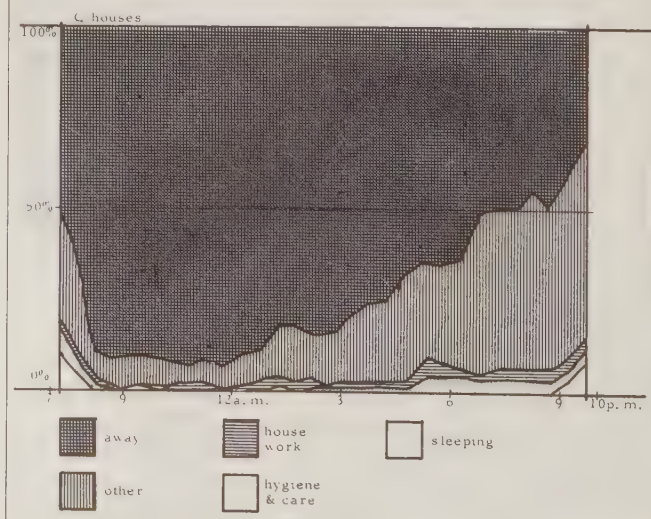


Figure 10:VII. Time budgets for heads of household in the S and Q houses.



Of the wives (figure 10:VIII) 45 per cent in the S and 38 per cent in the Q houses are up doing house work, care & hygiene at 7 a.m. Activities away from the house (shopping, visits etc) are more often done in the mornings rather than in the afternoons, the peak hour being just before noon. The house work and the hygiene & care seem to be rather evenly distributed over the day, although there is a slight peak period between 1 and 2 p.m. where Q wives are concerned, the corresponding period for the S wives being in the afternoon. "Other" are also relatively evenly distributed, except that the wives in the Q houses spend slightly more time on this type of activity in the afternoon.

Time budget diagrams for children are shown in figure 10:IX. At 7 a.m. a large portion (43 and 32 per cent respectively) are sleeping, but at 9 a.m. all are up. The "away" curve for children in the S houses seems to adhere somewhat to that of wives in the S houses, while that for children in the Q houses is very different from their mothers'. "Other" (including playing) is large all day, narrowing after 7.30 p.m. for S children, but remaining wide until 9 p.m. for Q children. These differences are thought to be due to differences in the age of children in the two house types.

*

To conclude the subject of time budgets, the differences between the house types, seem to be essentially caused by the difference in social composition rather than by the organisation of dwelling spaces in the house types. It is difficult to extrapolate the curves before 7 a.m. and after 10 p.m., but for all categories of people in both house types it seems as if a fairly large amount of awake activities goes on outside the time observed. In figure 10:X an attempt has been made to estimate a 24 hour time budget for wives in the S houses. If the estimate is essentially correct the diagram in figure 10:VIII will have to be slightly revised towards a higher proportion of hygiene & care and "other" at the cost of sleeping. Similar revisions could be made for the other diagrams, but this revision will not change the cautious nature of the conclusions.

10.11 Cooking

Besides the overall use of time and space, which has been analysed purely on the basis of the observation study, certain activities have been subjected to further investigation in the interview study. One such activity is cooking which I consider to be of particular importance because it involves special requirements on house design.

Documents on traditional African cooking methods are usually of colonial origin and tend to regard these methods as "primitive" without giving much thought to the social and spatial context in which they appear. The need for research into this problem has been emphasized in a report of the British Research Station:

"In studies of tropical housing, little

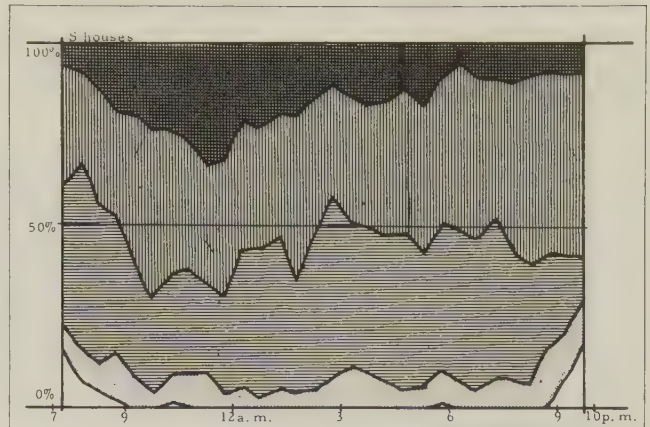


Figure 10:VIII. Time budgets for wives in the S and Q houses.

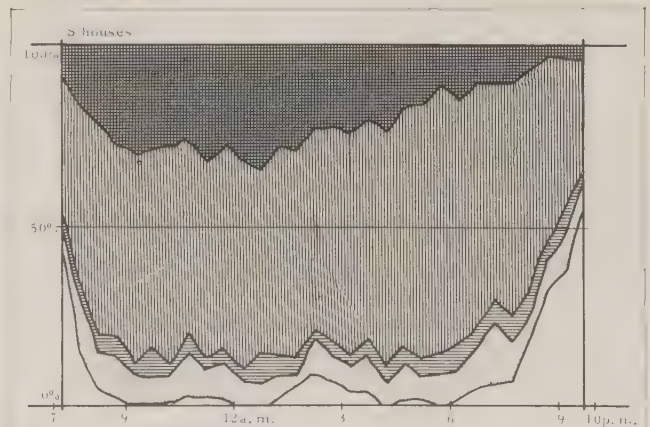
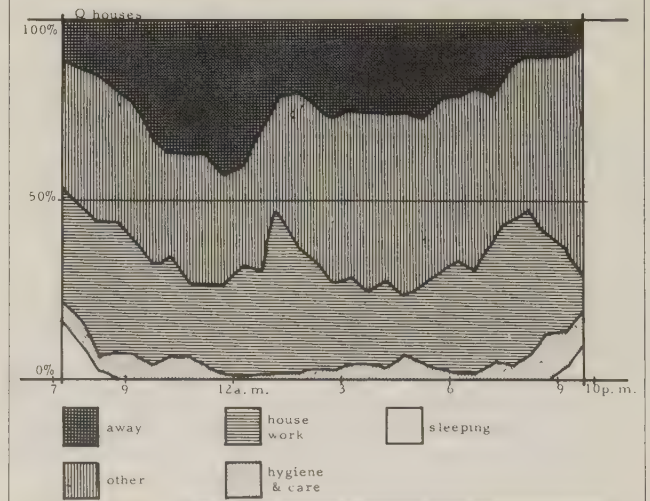


Figure 10:IX. Time budgets for children in the S and Q houses.

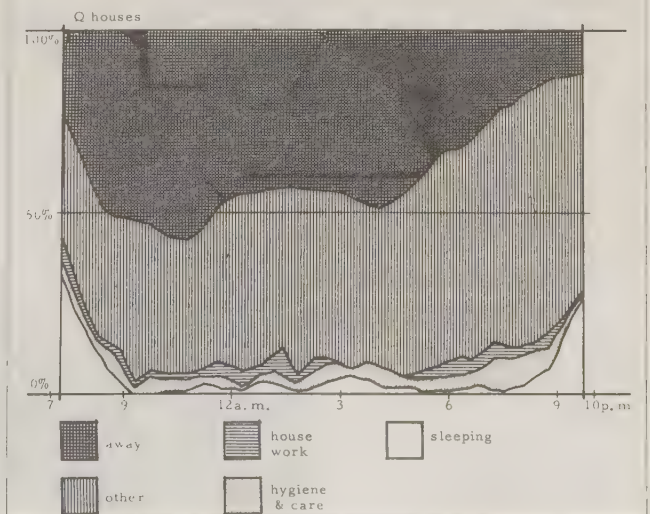
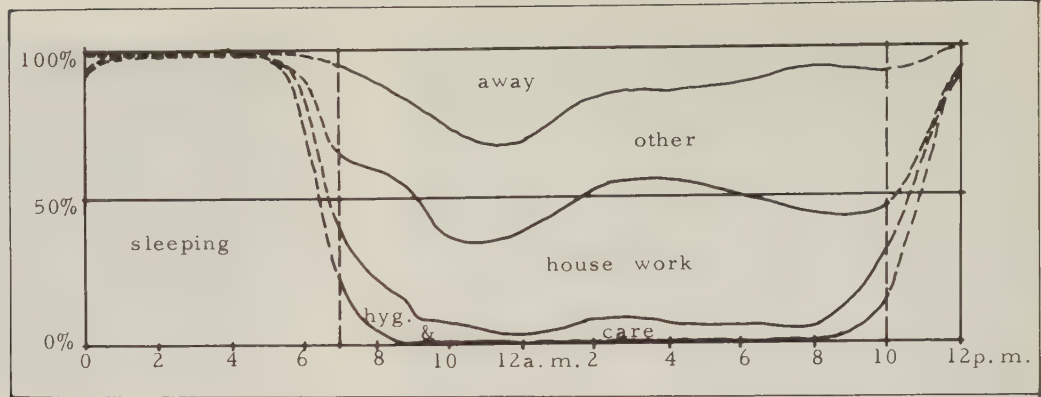


Figure 10:X. Estimated 24 hour time budget for wives in the S houses.



attention seems usually to have been given to problems of cooking. This is somewhat surprising when, from the information available, it would seem that many households in the tropics spend at least as much, and often much more, on fuel than on shelter." (Cooking 1957:2).

The report concentrates on the conflict arising when the traditional open and dirty wood-burning fire is brought into urban areas where housing is dense, firewood scarce and (colonial) demands for "tidiness" strict). In order to avoid cooking in the private rooms or in the open in low-cost housing areas kitchens are built away from the house, which in turn creates new problems:

"Where neighbours are strangers, or each house is not in its own enclosed plot, this arrangement does not seem to be popular. Cooking pots, etc cannot be left there unless the space can be locked up; when it is at a distance from the house, it is difficult to look after the children or keep guard against thieves. Lock-up kitchens may, in the other hand, be sub-let for additional housing." (Cooking 1957:5)

The frequency of separate kitchens in rural Tanzania has not been possible to assess. The only figures available are those from the study of some villages in Musoma rural district, indicating that very few people have separate kitchens and that almost all use firewood for burning (Rural Home 1969:59, 112, 159, 209). In Dar es Salaam the situation is different: most houses have separate kitchens and a variety of fuels exist. In the house types ana-

lysed in this study the kitchens are located as shown in figures 4:XIII, 4:XXI (types LC3 or LC4) and 4:XXIII. As separate kitchens are provided, one could expect them to be used, but on the other hand fuels such as kerosene and gas make cooking in the private rooms easier. One could say that there is a certain degree of free choice - especially for those who can afford kerosene and gas cookers - between cooking in the kitchen and the private room.

There is an important difference between the kitchens in the three house types: in the urban Swahili type houses the kitchen is communal; in the Quarter type house it is private, but allows conversation and insight between adjacent households, and in the NHC one-family units it is completely private. In concordance with the main assumptions A, B and C it may be argued that in houses where there are conflicts between the occupants and there is a communal kitchen, the occupants will to a larger extent exploit a freedom of choice in the location of cooking to perform this activity in a private dwelling space. This can be formulated as follows:

Assumption 27: Cooking is more often located to the private rooms in the S than in the Q houses.

In the F houses the kitchen could be said to be as private as the main building and thus that practical convenience (especially type of stove) or factors like habits and social status determine where cooking will take place.

Figure 10:XI. Part of kitchen with three types of stove: charcoal (left), gas (centre) and kerosene stove (bottom right).



For reasons discussed in section 8.5 the question about place of cooking (question 19w) was only put to wives. The replies were distributed as seen in table 10:2.

Table 10:2. House type and place of cooking (per cent of number of meals).

	Pri- vate S		C	F
	NHC S			
Kitchen	77	59	95	74
Room	19	9	5	26
Other spaces	4	32	0	0
Total	100	100	100	100
n	172	44	109	42

The number of prepared meals per respondent varies from zero (house maids did the cooking) to four, the average per house type varying from 2.0 in the F houses to 2.8 in the NHC S houses. The figures for the S and Q houses coincide fairly well with those of the observation study (see figures 10:III and 10:IV).

Table 10:2 shows that the highest frequency of cooking in the kitchen is found in the Q houses, while the highest per cent for the private rooms is found in the F houses. Meals prepared in "other spaces" are frequent only in private S houses, where the absence of kitchens is more common. Thus, assumption 2⁷ is supported. The fact that only the replies of wives are included means that differences in the proportion of bachelors between the house types ought to have been eliminated as an explanation of the differences found, but there could still be other reasons apart from the ones indicated above. For further discussion about neighbourly conflicts about the communal kitchen in the S houses, see section 12.11.

The other part of question 19w concerns the kind of food eaten (partly asked on behalf of a study of nutrition). As the replies are considered relevant for assessing the importance of cooking among other activities at home, they are briefly presented below.

Tea or tea plus bread is a very common meal in the morning. Ugali (stiff maize porridge) and rice are the absolutely most frequent staple foods. Excluding tea, these two food crops are found in 84 per cent of the meals. Rice is slightly more common in the F houses. Meat or fish is found in 22 per cent of the meals. Considering the fact that the average number of meals per household and day is 2.5, and assuming that those who said they were eating meat or fish only had this type of food for one meal a day, the proportion of households (couples only) who had meat or fish the day before the interview was 55 per cent - a surprisingly high figure. Even more surprising is that this proportion is lowest in the F houses and highest in the private S houses (contrary to the difference in average income).

33 per cent of all meals registered were also found to consist of two ingredients to be cooked separately. This raises the question of the number and type of stoves available to the households. In the questionnaire for wives

a special question about this problem was included (question 1w). The replies to this question may be presented here in order to further illustrate the importance of the cooking place.

The most common kind of stove in all house types is the charcoal stove (see figure 10:XII). 93 per cent of all respondents indicated that they possess such a stove. Almost half of the respondents said they had a kerosene stove (usually in addition to the charcoal stove). 21 per cent indicated that they possessed a gas stove. These figures are drastically different from those presented by Arrigone in his study of Magomeni in 1964. He found that only one out of 136 households was using a kerosene cooker. None had a gas stove (Arrigone 1965: 21).

The proportion of the more expensive types of stove does not vary according to house type, despite the different income levels. This means that the high proportion of cooking in the private rooms in the F houses can not be explained by this factor. Instead I think that it is mainly a question of differences in habits, probably due to higher social status in the F houses (cf Martin 1972:27).

As more than 50 per cent of the respondents have more than one stove it can be concluded that such a large proportion have facilities for cooking two ingredients at the same time. It is not known, however, to what extent this possibility is taken into use. (The ingredients may also be cooked one after the other on the same stove).

*

The preparation of meals is not such a simple matter in the studied households. It involves a series of partial activities and a great deal of different types of equipments. Almost all house wives prepare at least one meal every day consisting of two cooked ingredients. The observation study shows that cooking takes an average of about 2 1/2 hours a day in both the S and the Q houses. It seems evident that a separate kitchen is required and that all the studied kitchen types fulfil both the demand for separation of the "dirtiness" and the demand for contact with children and neighbours. The private kitchens of the Q houses are in greater use than the communal kitchens of the S houses. However, the Q kitchens, which lack doors, are criticized for lack of protection against burglaries (see chapter 13).

10.12 Arrangement of furniture

Dwelling spaces are used not only for human activities, but also for lodging attributes of human activities, like furniture, household utensils etc. The existence and arrangements of such objects may be seen as expressions of activity patterns in the house. They may stimulate certain activities and prevent the comfortable performance of others. Therefore furniture and household utensils naturally attract the interest in studies of use of dwelling spaces.

It seems as if very little interest has been

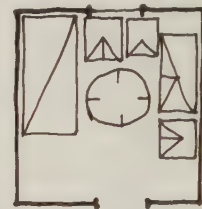


Figure 10:XIII. Most typical arrangement of furniture in the S houses: one bed, one table and a number of sitting furniture.

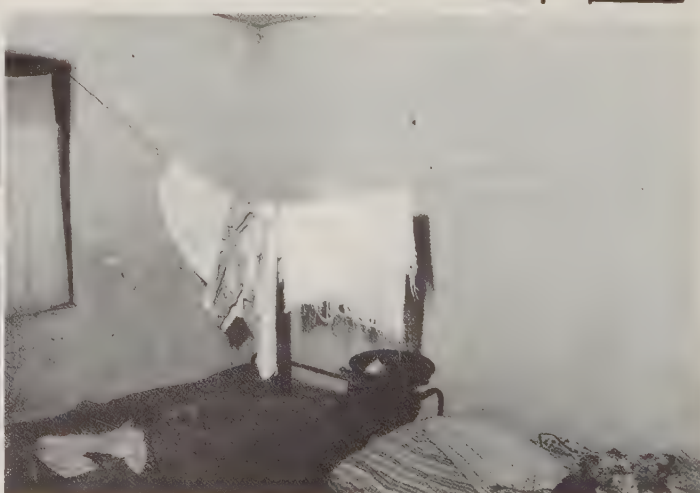
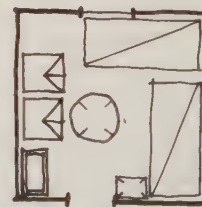
directed to the study of furniture and household utensils in Tanzania. The most systematic studies I have come across are the ones made by the Rural Home Economics Training Centre. In its study of five villages in the Musoma district it was found that most households had a mixture of locally made and imported household utensils; that almost everybody had chairs or stools; that many had beds or couches; and that only a few had tables or cupboards (Rural Home 1969: 59f, 113, 160, 209f). However, nothing is said about the spatial arrangement of these objects.

In Dar es Salaam a small study of houses along two streets in Kariakoo (Olenmark & Westerberg 1969) has been made, including some references to interior arrangements in urban Swahili type houses (p 12f). The students express surprise about the amount of furni-

ture they found in the rooms, and remark that the furniture is much better than the standard of the room itself. They find that stuffed sofas and arm-chairs are common, as well as small tables, often as many as four or five in the same room. For storing clothes, the most common ways are strings across the room and suitcases on the floor. Some rooms are very nicely decorated with carpets, table cloths, polished shelves, china, flower pots, photographs and small cushions (e.g. figure 4:XIX).

For the purpose of assessing the relationship between furniture and spatial organisation of houses in my study a selected number of rooms in the S and Q houses were photographed during the field work. These photographs were used for drawing plans of the rooms, including arrangement of furniture. The drawings, and a discussion of furniture

Figure 10:XIV. Second most typical arrangement of furniture in the S houses: two beds at right angle, one table and sitting furniture.



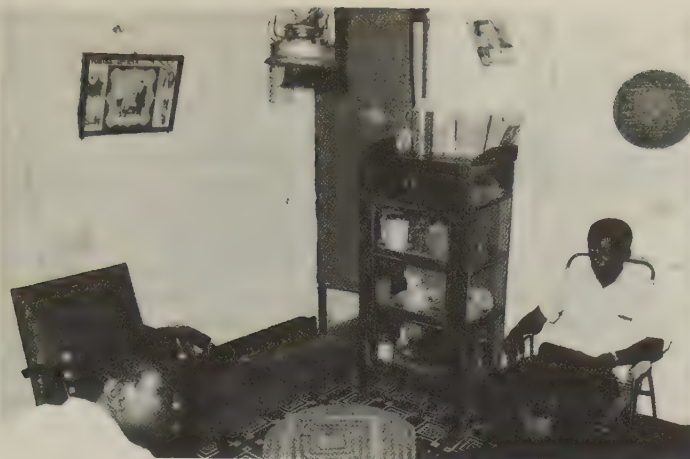
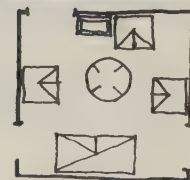


Figure 10:XV. Most typical arrangement of furniture in the first room in the Q houses: table + sitting furniture along two, three or four walls.



in relation to other variables selected from the interview study, are presented in an unpublished diploma work at the Division of Building Function Analysis, School of Architecture in Lund, Sweden (Stridh 1970). Below I will extract only the findings relevant to the following assumption:

Assumption 2⁸: The differences in spatial organisation of the S and Q houses are reflected in differences in the arrangement of furniture.

From the interior photographs only the more sizeable pieces of furniture could be identified. These were then classified into types and the distribution over types in the S houses was compared to that in the Q houses. As to beds it was found that there was an almost equal distribution in the two house types on three bed types: simple metal beds, simple wooden beds and beds with frames for mosquito nets. Most households have some kind

of sofa. There are all types and sizes of tables - an average of two per household in the Q houses and a little less in the S houses. About half the households in both house types have cupboards for storage. Shelves, chests of drawers and wardrobes are rare.

As the distribution over types of furniture seems to be roughly the same in the S and the Q houses this factor should not cause differences in a arrangement of furniture between the two house types.

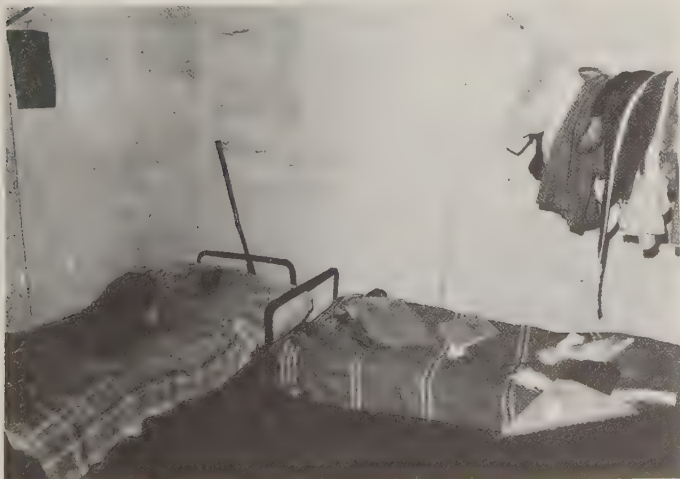
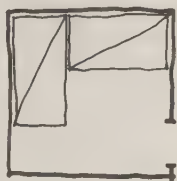
In the S houses the most typical kind of arrangement is a bed plus a table plus a number of seating arrangements in one room as shown in figure 10:XIII. The second most typical is two beds at right angles plus one table plus seating arrangements as shown in figure 10:XIV. Less typical are two parallel beds; one bed plus table but no seating arrangements, and living room arrangements without beds.

In the Q houses the most typical arrangement in the first ("living") room is a table plus seating arrangements along two, three or four walls, without a bed as shown in figure 10:XV. Only in a minority of cases does this room have a proper bed. In the second room two parallel beds; two beds at angle, and one single bed are all quite common (figure 10:XVI). Usually there are no or few tables or seating arrangements in this room.

The main difference in spatial organisation of the private rooms in the two house types is that households in the S houses usually have only one room, while those in the Q houses usually have two rooms. It is easy to see that this causes differences in the arrangement of furniture: in the Q houses the first room is furnished as a living room and the second as a bedroom, while the rooms in the S houses are usually furnished for both living and sleeping. In cases where a household has got two or more rooms in an S house there is almost always a difference in arrangement of furniture between the two rooms.

Another difference in spatial organisation is that the rooms of the S houses are usually about 30 per cent larger than those of the Q houses, although they are roughly quadratic in

Figure 10:XVI. Typical arrangement of furniture in the second room in the Q houses: beds but no tables or sitting furniture.



both cases. The larger dimensions of the S rooms means either that sleeping and sitting arrangements can be more easily combined in the same room, or that three beds can be fitted into one room, which is almost impossible in the Q rooms.

A third difference is the placing of door and window openings in the two house types. On the subject of window openings, Stridh notes (p 3) that their placing does not seem to affect the arrangement of furniture at all. The first room in the Q houses has no less than three door openings (in three different walls), and this obviously creates a problem. In a majority of cases one can not pass comfortably through one or several of the doors because the passage is blocked by furniture. Some households have simply blocked one of the door openings to the outside, thus facilitating the furnishing of the room considerably. But the disadvantage of this arrangement is also obvious: to gain access to dwelling spaces in the central yard one must either pass all around the house or else visitors coming from the street will have to be called to the back of the house.

In conclusion one may say that assumption 2⁸ is supported not only in trivial respects but also in the sense that the use of space is affected differently as a result of differences in arrangement of furniture, which in turn is imposed or stimulated by differences in dimensions of the rooms and the placing of door openings.

10.13 Conclusions

There is no doubt that assumption 2 is supported by the material presented - the question in whether the use of dwelling spaces is also affected by spatial organisation in "interesting" and not only in trivial respects. Of the eight specified assumptions I consider the first seven to deal with "interesting" correlations. As regards the last assumption which is more general, I think there are other than trivial differences to be found.

Assumption 2¹ is not supported and I interpret this to imply that the commonly held opinion, that private rooms in "poor" housing areas need not be designed for other activities than sleeping and storage, should be rejected. Another common opinion - that people spend most of their time outdoors - also seems to be revealed as a misconception by the discussion of assumption 2⁴. Previous assumptions about an intolerable microclimate in the S houses, forcing people outdoor, do not seem to gain any support, but further climatic studies are required before any definite conclusions can be drawn. The fact that no important differences are found between the house types in these two respects does not contradict other assumptions for which differences are found.

Assumption 2² that the corridor in the S houses serves the function of a living room is supported, but I do not think that this implies support for assumption 2 in any interesting sense. If the living room function of the private rooms were reduced in favour of the corridor, there would have been an interesting difference between the house types.

The difference found between the house types in use of the verandah (assumption 2³) might be due to trivial reasons like size, but it might also depend on its location in relation to other dwelling spaces or whether overcrowding of the private rooms in the S houses "pushes" activities out into the verandah.

Assumption 2⁵ that people in S houses spend proportionally more time in communal spaces is supported, and I think that there can be no doubt that it is because of the more collective spatial organisation of the urban Swahili type houses. What remains to be investigated, however, is whether this makes the people more "communally oriented" in this house type (see chapter 12).

The higher degree of separation of activities in the Q houses (assumption 2⁶) is thought to be an effect of higher social status in this house type. The fact that the assumption is supported in one of two possible respects is thus not believed to be the result of differences in spatial organisation. However, the differences in arrangement of furniture (assumption 2⁸) reveal that there is a higher degree of separation of living and bedroom activities in the Q houses, which is definitely the result of differences in spatial organisation. I think that this result is not at all self-evident. It would be interesting to study further the process of differentiation concerning arrangement of furniture, especially if related to the ideological climate and the furniture market.

I believe the fact that cooking is more often located to the private rooms in the S houses (assumption 2⁷) reflects the fact that kitchens in these houses are communal, while they are private in the Quarter type houses, and thus that assumption 2 is supported.

As concerns the question of whether differences between the house types apart from those of spatial organisation could explain the differences in use of dwelling spaces, it is my opinion that the discussion in section 10.9 definitely shows that people of different positions in the household use space differently. Section 10.10 shows that differences between people of different positions in the household are much larger than those between house types. The time budgets do not seem to indicate any differences in spatial organisation, but only differences in the distribution of heads of household, wives and children in the respective house types. Although there are such differences between the house types I can not see that they replace differences in spatial organisation as explanations to the differences in use of space discussed above.

11 Overcrowding

In the UN report about social aspects of housing and urban development, referred to earlier, Elisabeth Wood states that

"The most significant trend in the design of urban housing in the last fifty years, from the social point of view, has been the steady reduction of dwelling space and the intensification of building use. The trend has been forced by the rising cost of construction and increased competition for urban land." (Wood 1967:44)

In the previous chapter the use of dwelling spaces was mainly discussed in relation to the spatial organisation of house types. But it is obvious that a factor such as the number of people sharing a certain dwelling space affects the use of that space. When the number of persons using available dwelling spaces increases, or when the amount of space decreases to a certain limit, one can say that overcrowding occurs.

The general trend towards intensification of building use ought to be specially significant in underdeveloped countries, where city growth and urban poverty are more intense than elsewhere. Therefore we could expect overcrowding to be a dominant feature in poor housing areas of large cities in these countries. This feature is in fact considered so significant that the UN has included the factor of overcrowding in its definition of a slum (UN 1952b:200).

Residential overcrowding is usually discussed only in relation to private, indoor dwelling spaces of the household. Such a restricted view may, however, be strongly questioned, especially in the tropical and subtropical climate existing in most underdeveloped countries. Many observers have pointed out that overcrowding should be regarded differently in situations where communal and outdoor dwelling spaces are in frequent use (e.g. Sofer 1955:63, Stevens 1960:7, Hartman 1963:125, Clinard 1966:7). Others have pointed out the importance of cultural, social and psychological factors when studying overcrowding (see below). In the participant observation study I found reason to raise objections to the conventional definition of "overcrowding" (section 7:5).

In this chapter the phenomenon of overcrowding is discussed as a general problem parallel to an examination of specific assumptions about the relationship between overcrowding and spatial organisation of house types in Dar es Salaam.

11.1 Importance of the field of study

Several observers have emphasized the

need for research into the problem of overcrowding. Thus, for instance, Schorr (1970) states that

"A number of signs suggest that crowding is the key housing factor affecting low-income families" (p 324), and that "It is unfortunate that these factors have received so little research attention. Architects and builders are left to rely almost entirely upon tradition and intuition." (p 328)

The need for town planners to pay attention to the organisation of space with regard to overcrowding has been stressed by Mitchell (1970:46) and the value of periodical social surveys covering the problem of housing densities has been emphasized by Stevens (1960:8). One of the more specified research needs has been articulated by a WHO Expert Committee on the Public Health Aspects of Housing, which said that

"special attention should be given to defining the minimum and the optimum standards of living space, room sizes, ceiling heights, etc., with particular reference to geography and climatic conditions, socio-economic and cultural patterns." (WHO 1961:51)

A fairly large amount of documents with varying objectives have been produced on the problem of overcrowding. A bibliography called "Population Density, Crowding and Social Relations" (Choldin & McGinty 1972) lists not less than 263 items. However, only a minority of the studies are directly related to housing.

Of all research relating to overcrowding, perhaps the least fruitful is that basing itself on experiments with mice or other animals. I can not see that any useful conclusions can be drawn about human behaviour from such experiments as attempted by, for instance, John B. Calhoun (1971). Studies of animal behaviour may possibly have some relevance to historical incidents of extreme overcrowding such as in slave ships, concentration camps and prisons (as described by Biderman et al 1963), but hardly to the kind of crowding conditions existing in today's poor housing areas.

Some of the more comprehensive studies of housing areas with high population densities have been made in Hong Kong (e.g. Mitchell 1970, 1972). Other contemporary cases of extreme overcrowding are reported from the Bombay slums, where people are said to sleep in shifts because of lack of space (Clinard 1966:75); from Lagos, where 10 to 15 persons are said to share one room (Marris 1961:82), and from Mexico City, where Oscar Lewis took note of the following account:

"The room had one bed, in which Faustino and his wife slept. The rest of us slept of cardboard and blankets or rags spread on the floor. The only other furniture was a broken-down wardrobe, without doors, and a table which had to be put into the kitchen at night to make more room. Socorrito slept with her husband and children in the small area between the bed and the wall. Paula and I spread our bedding at the foot of the bed. My sister-in-law Delila and her son slept on the other side of Paula and my mother-in-law and her husband slept in the corner, near the kitchen, where the table stood during the day. That is the way the thirteen of us five families arranged ourselves in that little room." (Lewis 1961:160f)

A special category of studies deals with crowding and health. Wilner et al (1962) present a series of such studies, in which overcrowding is said to correlate with diseases, such as tuberculosis, pneumonia, respiratory infections, skin diseases, home accidents etc. Schorr (1970) mentions that overcrowding is correlated with venereal diseases and lack of sleep. Schmitt, in his study of Honolulu (1966), uses such crude measures as civilian resident deaths, deaths by suicide and infantile mortality. Mitchell (1970) studies overcrowding in relation to what he calls "emotional illness", and Rainwater (1966) mentions that overcrowding promotes "violence against self" (p 28).

As overcrowding is most often correlated with low income, low education, bad sanitary facilities and lack of social and medical services, these might be the direct causes of bad health, but at least some of these studies seem to show that lack of space is a contributory reason for bad health. This also seems to be the opinion of the World Health Organisation, which has stipulated minimum space requirements for health reasons (WHO 1961:19f).

Minimum space requirements have been employed in East Africa, where the medical authorities are said to have laid down as a standard the number of cubic feet of breathing space which each inhabitant of a house should enjoy (East Africa 1955:211). The same source states, however, that "it is not clear that a smaller amount of space is necessarily harmful to health in African conditions" (p 211), a view supported by a contemporary observer in Uganda:

"Most people naturally spend the daylight hours out of doors, or, if inside their rooms, open doors and windows provide adequate ventilation." (Southall & Gutkind 1957:37)

Many observers have pointed out that conventional norms of overcrowding are irrelevant in cultures where significant periods of time are spent in outdoor dwelling spaces (e.g. Stevens 1960:7 & 9, Daldy 1963:2, Hartman 1963:125, Schorr 1970:327). Outdoor living is not only a question of climate, but also one of socio-economic status. Thus, lower class people are said to spend more time outdoor

than upper class people in the same city. It is even maintained that poor people need more outdoor dwelling space for this reason (Stevens 1960:6). On the other hand poor people might spend more time outdoor because they do not have enough private, indoor space (Schorr 1970:327).

That the conception of overcrowding varies with culture has perhaps been most strongly demonstrated by Edward T. Hall (1966a and 1966b). By emphasizing the influence of culture without going into the material conditions of the different cultures, Hall's theory does however, become mysticist. He gives way to descriptions in terms of national stereotypes (e.g. Hall 1966a:113f). Nevertheless I find his writings important as he demonstrates that crowding is not merely a question of available space per person.

11.2 Overcrowding in East Africa

In section 9.4 it was assumed that housing shortage hardly existed in the countryside of East Africa. This view is supported by Sofer (1955:63) and Leslie (1963:31). Members of the National Housing and Building Research Unit (Tanzania) have, however, come to contrary conclusions:

"Generally, according to the number of household members, houses are often built too small. Consequently houses are being overpopulated. The rooms are mainly too small and too low, and little emphasis is given to the different purposes rooms are meant for." (Edvardsen & Hegdal 1972:88)

As people build their houses themselves, in the countryside, it seems to me that overcrowding there is "voluntary" or at least proportional to the effort required to build another or a larger room. In urban areas the situation is, however, different. There the dominance of the market economy and the rapid city growth impose overcrowded housing conditions for all those who can not afford to pay enough rent (e.g. Okonjo 1967:101).

In East Africa the problem of residential overcrowding is not a new phenomenon. Leslie mentions, for instance, that the Dar es Salaam municipality introduced overcrowding rules already in 1946, but he also mentions that prosecution according to these rules was hardly ever undertaken (Leslie 1957:182). In an article called "Congestion and Overcrowding: An African Urban Problem" P.C.W. Gutkind reports from Kampala that high densities is one of the main characteristics of the peri-urban "fringe" of the city (Gutkind 1960:130). Dyer, in his master plan for Mombasa, mentions that overcrowding is especially common and accepted in areas dominated by the urban Swahili type house (Dyer 1963:30).

Although there is unanimous agreement that most people in poor urban housing areas are overcrowded, the evaluation of this situation varies strongly. Thus, for instance, two Swedish housing experts consider overcrowding "a dangerous social disease", and "The conclusion must be that no family housing needs could be solved by reducing

the size of dwelling to 1 or 2 rooms. A vast production of those types now - in permanent constructions - will result in heavy social problems, now and in the future." (Holm & Hjelm 1972:3f)

The view is not shared by Leslie, who says the following about a house of 11 rooms with 33 occupants:

"... technically it is overcrowded. Yet even here it is not overcrowded throughout. For the rooms are divided thus: the owner has one in which he lives with his wife and three small children, five in all in one room. This may be rather a scrum, but not an unhealthy scrum." (Leslie 1963:72)

It has already been indicated that residential overcrowding is related to the spatial organisation of house types. Thus Dyer mentions that overcrowding is especially accepted in the Swahili type house, at the same time as the lack of restrictions about African house building has meant that this house type has done much to alleviate the housing shortage in Mombasa (Dyer 1963:30). In a "syndicate report" about low-income housing in Dar es Salaam from 1964 it is said that there is considerable overcrowding in the traditional (urban Swahili) type houses "because of the necessity of letting single rooms which are occupied by families" (El-Busaid et al 1964:5). In his draft report from 1957 Leslie calculated the population density by house type, concluding that "there is a very general average of about two souls a room through all types of accommodation" (Leslie 1957:168).

Concerning crowding conditions in the urban Swahili type house there seem to be two incompatible interpretations. One is that overcrowding is worse because of the sharing of facilities, and the other is that it is less bad than in other house types because of the availability of communal spaces. I find this contradiction worth a closer analysis (see below).

Concerning the Quarter type house Leslie states that

"The degree of privacy varied as would be expected, being comparatively low in the Magomeni terraces (i.e. Quarters) where the internal walls did not go much above head height and allowed sound to carry between flats, but to balance that was the additional privacy (as compared with the Swahili house) of one's own kitchen and latrine." (Leslie 1963:88f)

There are also two contradictory interpretations of the way people perceive their objective crowding conditions. Thus Holm & Hjelm refer to "universal requirements of privacy" (p 3), while Leslie points out the influence of culture and tradition:

"... the Quarters... have appealed to the man who wanted to live on his own with his family, and to have some modern amenities...; they have not appealed to the traditional Coastal man who is not so interested in privacy as in company and who prefers to live with others of his kind in the traditional areas and housing of Dar es Salaam." (Leslie 1963:151)

11.3 Definition of the problem

Although published as early as 1960 I think that Stevens's thesis "Densities in Housing Areas" - issued as No 1 in the Tropical Building Studies of the British Building Research Station - remains one of the most valuable accounts of the problem of overcrowding seen from a physical planning point of view. Stevens' tabulation of what he calls "density criteria" can be used to illustrate the problem area of my study of overcrowding.

Table 11.1. Density criteria according to Stevens.

1. Health
 - a) Water supply
 - b) Sanitation and waste disposal
 - c) Light, sunshine, air and quiet
2. Living spaces within dwellings
3. Social factors
 - a) Private open space
 - b) Privacy
 - c) Protection
 - d) Community facilities
4. Technical factors
 - a) Fire risks
 - b) Shortage of building land
 - c) Access
 - d) Ground conditions
5. Economic factors
 - a) Land cost
 - b) Distance from home to work and transportation costs
 - c) Availability and cost of essential services
 - d) Availability and cost of building skills, materials and equipment

In my discussion I leave out the technical, economic and health aspects as defined by Stevens. Thus I concentrate on the factors within the marked box. Stevens first includes "Living spaces within dwellings" among the health factors, but in his final table it is put as a separate factor. I find it interesting to note that Stevens separates it from "Social factors" and that these include outdoor space, privacy and protection. One main focus in my analysis will be on the relation between various types of dwelling spaces. The problem of community facilities is implicit in my basic assumptions and the problem of protection will be dealt with in a separate chapter (no 13).

Stevens is also aware of the psychological aspects of overcrowding, but he does not deal specifically with these. When I planned my field study I was not at all familiar with current theories about these aspects, as developed by, for instance, Hartman (1963), Prshansky et al (1970), Schorr (1970), Liebman (1970) and Dahlman (1973). I only made a distinction between objective factors - defined as factors related only to measurable space and number of people - and subjective factors, which comprise all aspects related to the individual's perception of the objective crowding situation. The following main assumption was formulated:

Assumption 3: Differences in objective and subjective measures of overcrowding between house types depend on the spatial organisation of these house types.

To be able to discuss this assumption fruitfully one must be careful when defining the concepts involved. The literature provides an ample amount of examples of how the definitions may vary.

The concept of "spatial organisation of house types" has already been defined in chapters 6 and 9, but I want to remind the reader that the amount of available space is considered to be one aspects of the arrangement of space, as has also been pointed out by Schorr (1970:327). Perhaps it should also be emphasized that we are here discussing the problem of crowding in a "microperspective", which, according to Dahlman, means that "crowding is referred to a room or other basic spatial unit" (1973:7). Besides the private rooms of the respective house types, the basic spatial units comprise the communal indoor dwelling spaces and the outdoor spaces in immediate proximity of the house. However, these different types of spaces can not be regarded as equal as we shall see later.

The term "overcrowding" must be distinguished from the term "density". According to Stevens (1960:15) housing densities can be expressed 1) in terms of people, or 2) in terms of accommodation. The latter can be measured in number of houses or rooms per acre or as a ratio of floor space to the area of land in the housing area. Such measures are detached from the number of persons occupying a certain room, houses or area of land. As the concept of "overcrowding" is bound to be expressed in terms of people, the concept of "housing density" is related to overcrowding only when expressed in these terms, i.e. either in number of persons per house or room, or in amount of space per person. Housing densities expressed in terms of people must not be regarded as identical to overcrowding, however, because "unhealthy conditions of overcrowding and environment may exist at comparatively low densities" (Stevens 1960:5). One may also find the opposite, i.e. housing density expressed in number of persons per acre being closer related to health than overcrowding expressed in number of persons per room (Schmitt 1966). Other definitions have been suggested by, for instance Choldin & McGinty (1972:3f), but I find Stevens' terminology more relevant to my approach to the problem.

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Of all the factors relating to the problem of overcrowding I have selected the following for further discussion on the basis of my empirical material:

Objective factors

- Number of persons per private room
- Private dwelling space per person
- Dwelling spaces of different types
- Type of household
- Functional dimensions of dwelling spaces

- Sleeping arrangements
- Separate sleeping for different categories of people

Subjective factors

- Attitudes to children sleeping in the same room
- Desired use of an extra room
- Overcrowding in the general attitude questions

Each of these factors will be discussed in a separate section before conclusions are drawn.

11.4 Number of persons per private room

The most commonly applied norms of overcrowding are those measured in number of persons per room. Sometimes children are counted as half a person, but usually all human occupants are considered to be of equal status (for further discussion, see section 11.7). In relation to calculations of overcrowding the definition of a room may vary. Thus, in Swedish calculations the kitchen is not counted as a room, while the drawing room is sometimes included and sometimes left out, depending on the type of norm applied. Rooms of less than seven m² are counted as half rooms.

Common to the conventional norms of overcrowding is that only indoor rooms private to the household (but not to the individual) are included. Thus private outdoor or communal indoor rooms are not included. The definition of a private room consequently depends on the definition of a household. Applying the definition outlined in section 6.4 one could still expect difficulties when classifying certain rooms used by, for instance, two different households in an urban Swahili type house. The experience of the field study showed that there was no ambiguity in judging which room belonged to which household.

There are no reliable calculations of overcrowding conditions for Dar es Salaam. The most specified calculations I found were those of the Dar es Salaam Master Plan team, basing itself on the incomplete results of the 1965-66 Social Survey. The Master Plan team mentions overcrowding as one of the most serious problems relating to physical planning in the Tanzanian capital. Applying the norm of two persons per room as a limit of overcrowding the team calculates the proportion of Dar es Salaam households living in overcrowded conditions to be at least 60 per cent (Master Plan TS2 1968:156).

The extent of overcrowding does, of course, vary from one housing area to another, but what is of special interest in this study is the difference between house types. As I have indicated in section 11.2 some observers maintain that overcrowding is more strongly experienced in the urban Swahili type house because more facilities are shared in this house type. It has also been maintained that urban Swahili type houses are objectively more overcrowded in the sense that there are more persons per private room in this house type. Before going into other measures

I want to investigate this basic measure for my sample.

Assumption 3¹: There are on average more persons per private room in the S houses than in the Q and F houses.

The number of rooms per household varies greatly between the house types. Thus 89 per cent of the households in the S houses have only one room, while 85 per cent of the Q houses have two rooms. In the NHC one-family (F) houses 23 out of 25 households have three or four rooms. But the number of persons per household also varies by house type as is shown in table 11.2

Table 11.2. Average number of persons per household and house distributed by house types.

	Pri- NHC S		vate S	Q	F
Persons per household	2.7	2.7	3.8	4.1	
Persons per house	14.3		15.2	4.1	
Number of households n=	142	53	77	25	

For the calculation of these figures people who are temporarily away have been included in the household, while those (mainly wives and children) who live more permanently up-country have been excluded. This means that to the previous nominal definition of a household (section 6.4) must be added this operational definition for the purpose of the discussion in this chapter. It should also be noted that about 40 per cent of the households in the Q and F houses consist of five persons or more, while only about 16 per cent in the S houses have so many members.

By dividing the number of persons with the number of rooms for each household the standard measure of overcrowding is obtained for the studied households.

Table 11.3. Distribution of households by house types and number of persons per room, p/r (per cent).

	Pri- NHC S		vate S	Q	F	Total
p/r ≤ 1	27	34	35	40	31	
1 < p/r ≤ 2	29	26	30	56	31	
2 < p/r ≤ 3	23	25	26	4	22	
3 < p/r	21	15	9	0	15	
Total	100	100	100	100	99	
n	142	53	77	25	297	

The uneven distribution of number of persons and number of rooms by house type in table 11.3 match each other so that the distribution of number of persons per room is almost the same for the S and the Q houses. The proportion of households with two persons per room or less only varies from 56 per cent in the NHC S houses to 65 per cent in the Q houses. For the F houses this proportion is much higher (96 per cent).

The main difference between the S and the Q houses is in the proportion of households with more than three persons per room (21 and 15 per cent as compared to 9). These latter

households could be characterized as extremely overcrowded. The most extreme case in the sample is one household of seven persons sharing one single room. There are three households of six persons in one room, three households of nine persons in two rooms and eleven households of five persons in one room. The largest household in the sample (14 persons) has four rooms. At the other extreme there is one case of one person being alone in four rooms.

One may say that the discussion indicates that assumption 3¹ is only partly supported. The main difference is found between the F houses on the one hand and the other house types on the other hand, while the S and Q houses only differ concerning the most extreme cases of overcrowding (more than three persons per room).

It may be asked how typical the overcrowding situation of the sample is compared to that of the two sampling areas, and to Dar es Salaam as a whole. The only figures available are those quoted above from the Master Plan saying that 60 per cent of the total number of households have more than two persons per room. The equivalent figure in my sample is only 37 per cent, but as the definitions and other details of the previous study are not known no proper comparison can be made.

11.5 Private dwelling space per person

In the calculation above no regard is paid to the size or other spatial qualities of the room. But it is logical that, for instance, the floor area should influence the measure of overcrowding. Also the volume of the room, i.e. the ceiling height, could be said to affect overcrowding, but as long as the ceiling height is great enough for a standing person it is the floor area of the room which is most important. This is the procedure used in most crowding studies (Choldin 1972:3).

For various purposes attempts have been made to specify minimum floor area per person. Thus, for instance, Daldy in his "Standard Accommodation for Low-Cost Housing in Tropical Countries" (Daldy 1963) mentions that 40 sq.ft. (3.75 m²) has often been used as a basis for design of army barracks and other institutional buildings. Daldy suggests that, if a room is to provide for two beds, a clothes cupboard and a chair, it would have to be at least 86 sq.ft. (8.0 m²).

The urban Swahili type house usually has a room size of 11 to 13 m² (120-140 sq.ft.), while the rooms of the Quarter type house have a standard floor area of 9 m² (95 sq.ft.). In the NHC one-family units the room sizes vary from 9 m² to 13 m². In accordance with the previous assumptions the following assumption can be formulated in this context:

Assumption 3²: The average private floor space per person is smaller in the S than in the Q and F houses.

If the average number of rooms per household is multiplied by the average size of rooms in the respective house types, and if this average floor area per household is then

divided by the average number of persons per household, the following figures for average floor area per person is obtained:

- for the S houses: 5.2 m^2 (19 % of the households $< 4.0 \text{ m}^2/\text{person}$)
- for the Q houses: 5.0 m^2 (35 % of the households $< 4.5 \text{ m}^2/\text{person}$)
- for the F houses: 9.2 m^2 (0 % of the households $< 4.0 \text{ m}^2/\text{person}$)

house would mean 6.0 m^2 (65 sq.ft.) per person, while four persons in a two-roomed unit of a Q house would mean 4.5 m^2 (48 sq.ft.) per person. In the most extreme case of the sample (7 persons in one room in an S house) there is less than 2 m^2 (20 sq.ft.) per person, i.e. half the standard floor area suggested by Daldy.

There is no important difference in average floor area per person between the S and Q houses, while people in the F houses have almost twice as large a floor area per person. Thus assumption 3² is not supported concerning differences between the S and Q houses.

However, average figures reveal very little about the real overcrowding situation. If the Daldy suggestion of 40 sq.ft. per person is replaced by 4.0 m^2 per person in the S and F houses and by 4.5 m^2 per person in the Q houses as a limit of overcrowding (to make calculations possible, see figures in brackets above), it seems as if overcrowding is more frequent in the Q than in the S houses, while it is non-existent in the F houses. This is an even stronger reason to reject assumption 3².

11.6 Dwelling spaces of different types

In the problem analysis above (sections 11.1 and 11.2) I indicated that I considered it a mistake to restrict a discussion of overcrowding to private rooms of the household. Behind this lies an idea which can be formulated thus:

Assumption 3³: Overcrowding is related to the distribution of dwelling spaces of different types.

The different types of dwelling spaces I refer to are described in figures 6:II, 6:VI and 6:VII. Using these rough estimates as a basis for calculations of floor areas a result as in table 11.4 is obtained.

One may say that an individual in either

house type has access to his own household's private dwelling spaces plus all communal spaces in and around the house. The table shows that an average individual of an F house has access to private indoor dwelling spaces three times as large as has an individual of an S house. If private and semiprivate outdoor spaces are added the difference is even more striking. For instance, a person in a Q house has access to more than twice as large non-communal dwelling spaces as a person in an S house. If all indoor spaces are added, a person in an S house has access to almost twice the area of that of a person in a Q house. And if all protected spaces are added, then the differences between the house types are not so large (depending on how the protected outdoor space is estimated.) I believe that there is no important difference between the house types as regards the amount of exposed dwelling spaces.

Of the indicated figures in table 11.4 those for private indoor spaces may vary from one household to another, while the other figures are constant as long as the house types are constant in layout.

In the above calculations no regard is paid to the number of persons sharing a certain dwelling space. It can be argued, however, that a communal dwelling space, for instance, which is occupied by a lot of tenants is not as accessible as an empty one. Perhaps a better measure is obtained if the various dwelling spaces are divided by the number of people who have access to them.

Note that the figure for the number of people sharing a certain dwelling space refers to the potential users of it rather than the actual users. Table 11:5 shows that the difference between the S and Q houses remains as in table 11.4 although somewhat less pronounced. The figures do, of course, vary considerably with the number of people per household or house.

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We have seen that the amount of floor space per person varies greatly between the house types depending on the types of dwelling spaces included. Thus, in this sense, assumption 3³ is clearly supported. Whether lack of space of one type can be compensated by ample space of another type has not been demonstrated. In fact, the relevance of these rather speculative calculations can be assessed only when the constructed objective measures of

Table 11:4. Floor area of dwelling spaces of different types in the respective house types (m^2).

	S	Q	F
Private indoor	14	23	42
Semiprivate and private outdoor	0	8	60
Communal indoor	28	0	0
Communal outdoor protected	25	80	0
Communal outdoor exposed	>100	>100	>100

Table 11:5. Average floor areas per person for dwelling spaces of different types in the respective house types (m^2).

	S	Q	F
Private indoor	5.2	5.9	10.2
Semiprivate and private outdoor	0	2.1	14.6
Communal indoor	1.9	0	0
Communal outdoor protected	1.7	5.3	0

overcrowding are related to proper subjective measures.

One way of assessing the importance of various types of dwelling spaces in relation to overcrowding would be to study the amount of time spent in these spaces. One could argue that people who (have to) spend most of their time in small dwelling spaces are more overcrowded than those who spend most of their time in large dwelling spaces, even if they could be said to have access to the same total amount of space. Ideas of this kind have been voiced by Choldin (1972), who notes that "measures like persons per room do not indicate when the persons are in the rooms" (p 7), and by Dahlman (1973), who says that "there is an arithmetic kind of relationship between short exposures to crowding and longer or repeated exposures" (p 9).

In order to study the effects of overcrowding, measured in persons per private room, upon the use of dwelling spaces of different types, further studies are required. Here I refer only to figures 10:3 and 10:4, which show that the private rooms are the most frequently used dwelling spaces in the S and Q houses, although the whole night period (9 hours) is excluded.

11.7 Overcrowding and type of household

In the discussion above all members of the households are regarded as equal and no distinction is made between various types of household, although this procedure should not be taken for granted. It could, for instance, be argued that a family with two small children needs more space than four bachelors living together, because the former spend more time at home, while the latter may use their room just for sleeping. It could also be maintained that households with teenagers or three-generation families need more private dwelling space than nuclear families with infants, because of the need for separate sleeping (see sections 11.9 and 11.10). Perhaps the most important would be to find out if the overcrowding situation changes with the family cycle. One may also speculate about the possible effects of overcrowding upon the personal relations within the household, as has been done by Mitchell (1970:2, 9, 37), or about the relations between households as has been done by Southall & Gutkind (1957: 128).

The following types of household are defined:

- Single persons living alone.
- Several adults of the same sex living together.
- Couples without children.
- Nuclear families consisting of parent(s) and child(ren) only.
- Extended families including all other combinations (mostly three generation families, but also a few cases of a child living with a non-parent relative or adult relatives living together).

These are the five types of household distinguished in other chapters as well. Sometimes the first two categories are combined under the heading "unmarried people" (although formal marriage status is not indicated), while the last three categories are sometimes jointly referred to as "family-type households".

Using the conventional measure of overcrowding (persons per private room) the conditions for the various types of household can be listed as in table 11:6.

Table 11:6 shows that the nuclear families, constituting 38 per cent of all households, are the most overcrowded ones. Almost 3/4 of them are considered very or extremely overcrowded, whereas the equivalent figure for extended families is about 50 per cent, for "adults" 18, and for single persons or couples without children 0 per cent. The problem of overcrowding (persons per private room) is essentially bound to households with children. This is further illustrated in table 11:7.

Table 11:7 reveals a very strong correlation between overcrowding and number of children. 87 per cent of households with three or more children are very or extremely overcrowded, while the equivalent figure for households with one or two children is 66 and for childless households only 8 per cent. No household of three or more children is considered "not overcrowded", while 55 per cent of the childless households fall into this category.

Most of the childless households are found in the S houses. In these about 60 per cent are childless, compared to 44 per cent in the Q houses and 36 per cent in the F houses. Thus the relatively equal distribution of various degrees of overcrowding (persons per private room) in the S and Q houses (table 11:3) is partly a reflection of the different distribution of types of household (and of course, the important difference in number of rooms per household). When discussing overcrowding in relation to private rooms one may conclude that it is mainly a problem

Table 11:6. Overcrowding and types of household (number of households).

	Single persons	Several adults	Couples	Nuclear families	Extended families
Not overcrowded ($p/r \leq 1$)	67	14	6	5	1
Moderately overcrowded ($1 < p/r \leq 2$)	0	32	20	25	16
Very overcrowded ($2 < p/r \leq 3$)	0	8	0	49	9
Extremely overcrowded ($3 < p/r$)	0	2	0	34	9
Total	67	56	26	113	35

Table 11:7. Overcrowding and number of children (per cent).

	No children	1 or 2	3 or more
Not overcrowded	55	3	0
Moderately overcrowded	37	31	13
Very overcrowded	8	36	50
Extremely overcrowded	0	30	37
Total	100	100	100
n	164	87	46

for households with children in the respective house types.

11.8 Functional dimensions of dwelling spaces

When measuring overcrowding in number of persons per room or floor area per person, it is usually assumed, unconsciously, that the dwelling spaces are used for specific activities for which the space requirements are known. Thus, in the introductory remarks to section 11.5 Daldy is quoted when suggesting that minimum floor areas for a room in low-cost housing schemes should be determined by the requirement to accommodate two beds, a clothes cupboard and a chair.

But the use of a particular dwelling space can not be determined beforehand without knowing the potential users. It can not be taken for granted, for instance, that people use beds, that they store clothes in cupboards, or that poor people do not need space for a radio-grammophone (see section 11.9 and 7.5). The amount of time people spend in a certain dwelling space might be relatively uninteresting compared to the spatial requirements of the various activities performed there (or desired to be performed there).

One could postulate the assumption that overcrowding occurs when available dwelling spaces are inadequate for the (actual or desired) activities of these dwelling spaces. In accordance with the main assumption this could be rephrased in the following way:

Assumption 3⁴: Overcrowding is related to the functional use of dwelling spaces in the respective house types.

As sleeping arrangement is considered to be most important in relation to overcrowding this factor is selected for a special discussion (section 11.9). Here I will only give some comments to the theoretical problem and deal with a few activities which I believe are ignored when referring to overcrowding in the S and Q houses.

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Although discussions of functional dimensions of dwelling spaces are very central in the field of building function analysis, these have seldom been conducted as part of the problem of overcrowding. Choldin, in his paper "Population Density and Social Relations" (1972), touches upon the question when he says that

"Research on the configurations of spaces is needed to discover whether simple quantity of space makes a difference, or

whether equal amounts of space differently arranged have different effects." (p 20f)

Stevens (1960) has also touched upon the question when introducing the concept of "habitable space" (p 15) and when discussing the importance of services and appliances for spatial requirements (p 6). Stevens does not, however, suggest that functional studies should replace conventional measures of crowding.

To study the functional dimensions of dwelling spaces for the purpose of eliminating overcrowding is by no means an easy task. It is especially difficult in situations where the functional differentiation of dwelling spaces is far from rigid, to say what activities "should" take place where. If one only studies activities which are performed in existing dwelling spaces at a certain period of time, then one's research might just serve the purpose of legitimizing already existing physical structures, rather than questioning their suitability. Therefore, discussions of functional requirements on built environment must always be combined with ideological considerations.

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The information given in figures 10:III and 10:IV is not detailed enough to allow for establishing the critical dimensions of all dwelling spaces in the two house types. That would require special studies of activity patterns of various groups of households. Here I just want to comment on three dwelling spaces of the S house and one dwelling space of the Q house.

The corridor of the S houses is an important multi-purpose dwelling space, used for eating, cooking, house work and playing, as well as for communication. In the NHC S houses the width of the corridor is 1.5 m (4 1/2 ft.). It can easily be seen that there is a strong possibility that activities registered in the corridor will come into conflict with each other, especially that between sitting in groups on the floor and passing through. The storing of bicycles in the corridor also creates a problem.

The situation is slightly different in the private S houses where the corridor is usually wider (1.5-2.0 m). Conflicts between various functions can be expected to be less frequent in this case. Space even allows for cupboards, buckets or other items in the corridor.

These observations might be interpreted in two principally different ways. Either the corridor is regarded entirely as a space for communication and other activities are re-

garded as undesirable in the corridor. The fact that the corridor is used for purposes other than passing through could then be seen as a result of deficiencies in the spatial organisation of the house as a whole (for instance, that families have only one private room each). This view could lead to suggestions that the corridor should be made still narrower (for instance 1.0-1.2 m) in order to prevent the comfortable performance of activities other than passing through, and that the space thus gained should be added to the private rooms.

The other interpretation is that as long as the urban Swahili type houses are used for multi-family accommodation there is a need for an indoor, communal dwelling space which facilitates the comfortable performance of activities such as cooking, house work, playing and storing. In such a case the width ought to be about 2 metres. Possibly the width applied by NHC - adhering to none of these two interpretations - does little more than create a sense of overcrowding in the house.

The average back yard of the S houses is estimated to be large enough for the activities usually performed there (house work, hygiene and care). The simultaneous use of the back yard by several households for drying laundry will probably make the space reach or exceed its critical dimensions, or prevent other activities, e.g. playing or social intercourse, from taking place there. This might create a sense of overcrowding, but only during those short periods of time when several households dry their laundry at the same time.

The kitchen of the S houses might be the most significant case of a communal dwelling space diverting from its functional dimensions. A floor area of 7.5 m² (80 sq.ft.) obviously does not allow for six persons cooking at the same time. A functional study would probably show that such a size allows for a maximum of three (squatting) persons cooking at the same time. A possible defence for a floor area of 7.5 m² might be that there are usually less than six household per house (the average is 5.3 households per house); that all households do not usually cook simultaneously; and that a considerable portion (on average 1/3) of the cooking is done outside the kitchen. On the other hand, the fact that 1/3 of all the cooking in the S houses takes place in other dwelling spaces might be an expression for the lack of space in the kitchen.. This is pointed out in an essay on family life written by a sociology student at the university of Dar es Salaam:

"Although there is a kitchen in the backyard the wife prefers cooking in her room because for one reason the kitchen is always overcrowded with both male bachelors and wives of other tenants during the cooking hours, and secondly she fears that perhaps one of them might be a witch or a sorcerer." (Sociology students 1969)

For a discussion of the problem of the simultaneous use of the kitchen by bachelors and house wives, see section 12.11. For a discussion on sorcery and security, see section 13.7.

For the Q houses the most significant case of a dwelling space diverting from its functional dimensions is what may be called the living room (see figure 10:XV). The three doors to this room are so arranged that no functional furnishing is possible. Any placement of a bed or sofa-and-armchair arrangement will block one of three doors (see section 10.12). This case illustrates very well how the arrangement of space might strongly affect the overcrowding situation. There is enough space to permit separate sleeping, for instance, but the placing of the doors does not allow for any full-size bed to be put in one of the rooms.

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It may be concluded that overcrowding is strongly related to the functional use of spaces in the S and Q houses and thus that there are good reasons to accept assumption 3⁴. Although no proper functional studies have been carried out for the two house types I think that the corridor and the kitchen of the NHC S houses and the "living room" of the Q houses are inadequate for the activities taking place there (and which I think should be allowed to take place there).

11.9 Sleeping arrangements

It seems obvious to me that the most important function relating to overcrowding is the sleeping arrangement of the household. Sleeping is a basic need which requires special considerations in house building. Spatial and emotional factors are closely related for this function. Other everyday activities can more easily be performed in varying dwelling spaces, while sleeping is more closely bound to one single space - the most private sphere of a house.

The conventional measure of overcrowding, number of persons per room, can be said to reflect the sleeping arrangements in cases when "rooms" are bedrooms suited and used for sleeping. But what demands do people actually have on their sleeping arrangements, and how do they go about satisfying these demands, how do they react to several persons sleeping in the same room? The assumption I want to discuss in this and the following section is:

Assumption 3⁵: The sleeping arrangement reflects the crowding situation in the household.

Besides the number of people sleeping in the same room, sleeping arrangement can be expressed in number of people without a bed, number of people sleeping in unsuitable dwelling spaces, or number of people sleeping in the same bed. The latter is reported to have been used as a measure of crowding in 19th century Great Britain (Schorr 1970:324).

In my field study the sleeping situation of all members of the household was recorded in the interview (question 25). A distinction was made between proper beds and beddings directly on the floor. In the S houses the possible

maximum of standard size beds is two per room, and in the Q houses it is three beds per each two-room unit. If bunti-beds were used this number could be increased, but among all studied households only one or two cases of such beds were found.

Almost all households (99 per cent) have at least one bed, but only 41 per cent have as many beds as there are members of the household. In as many as 18 per cent of the households there are more than two persons per bed. The most extreme case is one household of six persons with only one bed.

In the interview study the number of cases of two, three and four persons sleeping in the same bed were registered as were the number of cases of people sleeping on the floor or in the corridor. The distribution over house types is seen in table 11:8.

Table 11:8. House type and number of persons per bed (number of persons).		NHC S	Private S	Q	F
	One per bed	118	60	94	23
	Two per bed	190	64	134	68
	Three per bed	42	9	36	0
	Four per bed	4	0	4	0
	On the floor	29	9	27	12
	In the corridor	2	0	0	0
	Total	385	142	295	103
	Three or more per bed or on the floor (% of persons)	20	13	23	17

Table 11:8 shows that about 2/3 of all members of the studied households do not sleep alone in a bed. This figure varies only slightly between the house types. If beds are very large (wider than 1.2 m) then three persons sleeping in the same bed might not be very uncomfortable, but the inventory of furniture (Stridh 1970) shows that beds are usually of standard size (about 80x200 cm) or smaller. The fact that three or four persons squeeze into a standard bed all the same is an indication that being crowded in a proper bed is preferred to sleeping on the floor. It can be noted that the private S house, which usually has an earth floor, has the lowest proportion of people sleeping on the floor.

The fact that people sleep two in a bed or sleep on the floor is not necessarily a sign of overcrowding; it might just as well reflect existing values or that people can not afford a bed. The only strong statement against several people sleeping in the same bed that I have come across is that by Haglund (1962), who mentions that "the baby sleeps with the mother at the risk of being suffocated" (p 5). If sleeping more than two in a bed, sleeping on the floor or in the corridor is taken as an indication of overcrowding, the table shows that people in the Q houses have the highest proportion (23 per cent) of such sleeping conditions, while the private S houses have the lowest (13 per cent).

There are only two cases, admitted, of people sleeping in the corridor of an S house. As the respondents were suspected of being reluctant to admit such sleeping arrangements in their own household it

was also asked whether anyone in the house has slept in the corridor. At least six cases were reported this way, including temporary cases.

The respondents were also asked about people sleeping outdoors (in the back yard or verandah). 20 cases of "yes, seldom" and 11 cases of "yes, often" were reported. 27 of these 31 cases were found in the S houses. Respondents were also asked about the reason for sleeping outdoors. 13 mentioned lack of space, nine mentioned the heat indoors and the rest gave no reason. The back yard of the NHC S and F houses could be said to provide for more attractive outdoor sleeping than outdoor dwelling spaces in the C and those private S houses without an enclosed back yard.

*

Obviously some people sleep outdoors or in the corridor of an S house because of overcrowding. People who sleep three or more in a bed might do this because of lack of resources to obtain a bed or lack of space for that bed, but in both cases they can be said to have overcrowded sleeping arrangements. The answer to assumption 3⁵ can be given only when the actual sleeping arrangements are related to the value judgement of the people concerned. No general attitude question about the sleeping arrangement was asked in the interview, but some specific questions will be analysed in the following sections.

11.10. Separate sleeping for different categories of people

Perhaps the most important aspect of the sleeping arrangement is the extent to which people of different categories sleep in the same room. The need for separate sleeping directly affects the requirement upon the extent and division of private dwelling space. In house planning this factor can be said to be a dimensioning requirement. But what categories and what activities are to be separated?

The WHO expert committee on the public health aspects of housing recommends "the provision of a room or space, separate from the sleeping rooms, which may be used for leisure activities and for intra- and inter-family social con-

tacts. --- On the basis of moral issues, adolescent and adult persons of opposite sex, except husband and wife, should not share bedrooms." (WHO 1961:20)

These two requirements might be difficult to satisfy simultaneously and in such cases

"the family may be encouraged to consider using all available space for sleeping purposes and to forego if necessary the common desire for a room set aside as a living-room." (UN 1964: 62)

This recommendation is formulated by home economist E. Haglund, who emphasizes the universal nature of the need for separate sleeping (see also Haglund 1962:5). It is obvious, however, that sleeping in the same room is viewed differently in different cultures. The relativity of the concept is pointed out in one of the first sociological housing studies in Africa ("Social Survey of Cape Town", referred to in Sofer 1955:63). On the other hand one may say that people have no other choice in situations when overcrowded living conditions has been imposed on them. This phenomenon has been described by Southall and Gutkind in their report on poor African housing areas in Kampala:

"Most, and probably all, the tribes concerned have customary rules in relation to this question which are still normally observed in the rural context, but are of necessity broken in the conditions of Kisenyi. According to these tribal rules, more than one couple may never have sexual intercourse in the same room, nor in the same room as any other adults, related or otherwise, or even children over the age of three or four. All these standards must regularly be broken by many households in Kisenyi, because they cannot afford to rent more than a single room." (Southall & Gutkind 1957:37).

Of course, people tend to adapt their attitudes to their actual living conditions. Therefore I think that too strong an emphasis on the cultural element (as in Sofer 1955) implies a risk of making a virtue of necessity. One may ask, for instance, if the sleeping arrangement of the 13 persons in one room, described by Oscar Lewis's witness (see quotation in section 11.1) is not in strong contradiction to the values of the people concerned. One of the occupants gave the following comments:

"Living together like that in a single room also affected our sex life. The family was always there and one could not satisfy the appetite of the moment, because it was a matter of having witness, no? When we had the opportunity

of being alone and were enjoying ourselves a bit, someone always came suddenly to knock at the door and stopped us short in the act. That was when one felt cheated and disillusioned." (Lewis 1961:161)

In the case of my sampling areas, and I believe in Dar es Salaam as a whole, such extreme cases of congested sleeping arrangements hardly exist. Out of the 297 interviewed households there is not one single case of two couples sleeping in the same room. Upon a question about (adult) relatives or friends sleeping in the same room as the respondent, 47 couples (32 per cent of all couples) reported such cases, nine of which were said to occur "often".

More frequent is the existence of children sleeping in the same room as their parents. How this may affect family life is described in an essay by a sociology students of the university of Dar es Salaam:

"But due to lack of space in the room they have arranged in such a way that the two children sleep on one bed leaving the other small bed for the youngest child. --- Peter who is the oldest of all is now growing up. And she (the sister-in-law) feels it will be very un-African to let him see them (wife and husband) sleeping on one bed. And they can't send him to sleep with her aunt in the other room for in the African sense her aunt is in fact her mother." (Sociology students 1969)

In section 11.7 it was shown that overcrowding measured in persons per private room is a problem mainly for households with children. As a specification of assumption 3⁵ it may be suggested:

Assumption 3⁶: Children sleeping in the same room as their parents is an indication of overcrowding.

The actual situation for those households in which a couple and at least one child sleeps in the same room, is shown in table 11:9.

There are 192 heads of household registered as married in the final sample (including marriage-like relations). Not all of these consist of couples permanently living together. Table 11:9 shows that 101 couples (about 60 per cent of all couples) have children sleeping in the same room. 72 per cent of these are three years or older; 46 per cent are five years or older, and 10 per cent are 11 years or older.

There is a strong correlation between number of persons per room and age of oldest child sleeping in the same room. Of those households where the oldest child sleeping in the same room is five years or

Table 11:9. Overcrowding (p/r) and age of oldest child sleeping in the same room as its parents (number of households).

Age of oldest child:	1 or 2	3 or 4	5 to 7	8 to 10	≥11 years
Not overcrowded	1	0	0	0	0
Moderately overcrowded	8	5	4	2	2
Very overcrowded	15	13	8	2	3
Extremely overcrowded	4	9	13	7	5
Total	28	27	25	11	10

Table 11:10. Attitude to age of oldest child sleeping in the same room as its parents (number of respondents).	In rural home:	1 or 2	3 or 4	5 to 7	8 to 10	≥11 years
	Present opinion:					
	1 or 2 years	12	7	1	0	0
	3 or 4 years	4	63	29	2	2
	5 to 7 years	2	38	112	29	8
	8 to 10 years	2	6	11	34	8
	≥11 years	2	1	3	3	16

older the proportion of extreme overcrowding is 54 per cent, while the equivalent figure for households with children of one to four years in the same room is only 24 per cent. (For all studied households the proportion of extreme overcrowding is 15 per cent). These figures are taken as a support for assumption 3⁶.

11.11 Attitudes to children sleeping in the same room

In the previous discussion the aim has been to concentrate on objective criteria of overcrowding. By this I mean that the discussion is not based on studies of the values of the people in the respective house types. (The selection and formulation of assumptions are, however, subjective in the sense that they are based on my conception of crowding.

In the following sections the subjective criteria of overcrowding will be discussed in relation to some of the questions put in the interview study. The following questions were put concerning attitudes to children sleeping in the same room as their parents:

29. At what age do you think that children should not sleep in the same room as their parents?

30. In your home area, until what age do children usually sleep in the same room as their parents?

The second question was based on the assumption that most respondents would take their frame of reference for questions like these from their rural home. It was also believed that there would be a tendency to adapt one's attitude to one's actual situation.

Assumption 3⁷: Attitudes about age of oldest child sleeping in the same room as its parents vary with previous norms and present crowding conditions.

The cross-tabulation of the replies to the questions is shown in table 11:10.

Table 11:10 shows that the ages given in reply to both questions vary widely (from one to 19 years) and that 74 per cent give seven years or under as the custom in their home area, while 78 per cent mention that age as their present attitude. There is a strong correlation between the two variables: as many as 60 per cent give almost the same reply to the two questions (the marked figures). 22 per cent mention lower ages than was the custom in their rural home and 18 per cent mention higher ages. The figures do not re-

flect any single tendency: towards stricter norms or towards accepting children of older ages sleeping in the same room.

To establish the frequency of subjectively experienced overcrowded sleeping conditions the attitudes of the respondents will have to be compared to the actual sleeping arrangements. For those households where parents and children sleep in the same room such a comparison reveals the following:

- Higher age for attitude than for the actual situation: 55 households
- Same age for attitude as for the actual situation: 15 households
- Higher age for the actual situation than for attitude: 30 households

Out of all households where parents and children sleep in the same room (35 per cent of all studied households) only 30 per cent live in worse conditions than their actual desires. Of the 70 households where the accepted age is the same or higher than the actual age, only five have children of the age of seven or older sleeping in the same room as their parents. These figures give little support to assumption 3⁷.

11.12 Desired use of an extra room

People who are overcrowded in the sense discussed above could be expected to desire more private, indoor dwelling space, especially in the form of a separate room. Such an extra room could be used for several purposes: as another bedroom, as a living room as a room for guests staying overnight etc. My discussion in the preceding sections is based on the assumption that the sleeping arrangement of the household is of crucial importance to the subjective experience of overcrowding. This can be formulated as follows:

Assumption 3⁸: People with overcrowded sleeping arrangements are more inclined to express a desire to use an extra room for separate sleeping.

The reply is not self-evident: there are indications that people would use an extra room for other purposes even if they sleep many in one single room. Thus, for instance, Southall & Gutkind (1957) mention that "many households renting two or more rooms are actually all sleeping in one" (p 36). Olemark & Westerberg (1969) indicate that most of their respondents (in Kariakoo urban Swahili type houses) said that they would use a possible extra room for visitors staying overnight.

Table 11:11. Overcrowding (p/r) and desired use of a possible extra room (number of respondents).

Overcrowded:	Not	Moderately	Very	Extremely
Children and parents would sleep separately	3	25	50	43
Would keep it as a living room	37	45	42	25
Would keep it for guests	42	51	12	11
Would let it	2	3	0	1
Friends/relatives would move in	5	5	0	0
Don't know	6	7	7	2
Other	4	8	3	2

In the interview study the following question was put à propos of this problem:

23. If you had another room, what would you use it for?

The reply to this question reflects an attitude, not necessarily what people would do with an extra room. Several simultaneous uses, and thus several simultaneous replies, are possible. Table 11:11 only includes the first spontaneous reply.

The first three reasons are by far the most dominant (88 per cent of all replies). The low proportion of "don't know" (5 per cent) indicates that people are conscious of their desires concerning the use of an extra room.

Table 11:11 shows that those who said they want to use an extra room for separate sleeping are most often very or extremely overcrowded; that those who would like to keep it as a living room are most often moderately or very overcrowded, and that those who would keep it for guests are most often moderately or not overcrowded (marked figures).

It seems obvious that assumption 3⁸ is supported and that the three first alternatives constitute an order of priority for overcrowded households.

The replies to the question above are strongly related to the type of household of the respondent. Naturally, only households with children will mention the alternative "children and parents would sleep separately". It is noteworthy, however, that for "extended families" this alternative comes only second to the alternative "keep it for guests". Extended families are the only type of households which have given this alternative first priority. The conclusion from this might be that households classified as extended families might have grown-up relatives sleeping in the same room as the parents and that this situation makes a guest room (for staying over night) more necessary than other alternatives. For childless households the "living room" alternative usually has first priority and the "guest room" alternative second priority.

For the households with children sleeping in the same room as their parents one could ask if the replies are correlated to the age of the oldest child sleeping in the same room.

There seems to be a clear correlation between the two variables. Table 11:12 shows

that of those who said that children and parents would sleep separately 2/3 have children five years or older sleeping in the same room. The equivalent figure for those who have indicated another use of a possible extra room is less than 1/3. However, as many as 16 respondents who have children five years or older sleeping in the same room said they would use a possible extra room as a guest or living room, or others, but not for separate sleeping. Of course, they could use an extra room both for sleeping and other purposes, but it is still noticeable that such a large proportion of overcrowded respondents mention purposes other than separate sleeping as their first spontaneous reply. I expected that assumption 3⁸ would receive more support than it actually did.

In the whole interview study there were no signs of customs or desires to separate the sleeping rooms of children of different sexes. No specific questions were directed as to this problem, but the discussion above and the general situation of overcrowding for households with children indicate that sexual separation of children's sleeping quarters is not regarded as one of the most important aspects of overcrowding. Inquiries about teenage children being sent up-country or about children sleeping at the house of relatives could give more detailed information about this problem.

11.13 Overcrowding in the general attitude questions

Attitudes to overcrowding are also revealed in replies to questions about the general housing situation. These questions have been discussed in chapter 9. Here the replies relating to overcrowding will be discussed in greater detail.

Of all the replies classified under the heading "lack of space" a substantial part is too vague to give a hint about which aspect within the total housing situation is conceived of when answering about overcrowding. Such replies are

- It is crowded
- I want a bigger house

However, most replies give an indication of what aspects of overcrowding people have in mind. It is clear, for instance, that a majority of replies refer to private, indoor

Table 11:12. Households distributed over age of oldest child sleeping in the same room as its parents and desired use of a possible extra room.

Age of oldest child:	1 or 2	3 or 4	5 to 7	8 to 10	11 years
Children and parents would sleep separately	4	11	14	10	6
Other use	24	16	11	1	4

dwelling space, replies such as:

- The room is too small for me...
- I had only one room
- It is overcrowded, I would like a bigger room.

Other replies are more precise in the sense that the size or the number of private room(s) is related to the number of persons occupying it:

- Not good since I live in one room with my family of four children.
- The room is too small for me and due to lack of rooms I have sent my family home.

Some respondents find that the rooms are too small to accommodate their furniture and/or household equipment:

- Too small for a family with plenty of things.
- There is not enough space here. I would like to put many things in and to decorate my house.

None of the three house types contain enclosed storage space in immediate connection with the private rooms. A separate investigation could show if this deficiency should be repaired by increasing the size of the private rooms, by providing special storage rooms, or by introducing more suitable (and cheaper) furniture for storage.

A few replies indicate that the private rooms are not adequate for certain specified activities or types of household:

- The house has only one room and this brings great inconveniences, especially when we get visitors.
- I want more room for guests.
- Not enough space, especially for a married couple with children.
- Three bedrooms are required instead of the present set-up.

These replies seem to reflect a desire for separate sleeping, but the respondents do not specify which aspects of crowded sleeping arrangements are most inconvenient to them.

However, not all replies are related to the lack of private, indoor dwelling spaces. In a few cases other dwelling spaces, or the general density of the housing area, is referred to:

- It is overcrowded, there is only one kitchen...
- The blocks are also too much in contact with each other.

Finally, there is a group of replies which connects to the lack of space with the sharing of facilities, especially in the urban Swahili type house:

- The house was too heavily populated, yet there was only one kitchen, bathroom and latrine. Moreover, I did not like the habits of the house residents, the Zaramo.
- I wanted a bigger room which had its own doors.
- The sharing of the Swahili type house by many tenants made the house overcrowded and therefore I wanted a rather bigger room.
- It was overcrowded and the house owner was very quarrelsome.

*

None of these examples are replies to specific questions about overcrowding. Instead they are taken from the replies to open attitude questions about the general housing situation (questions 2, 3, 21, 54 or 60). There is no special word for "overcrowding" in Swahili and therefore people's conception of it would have had to be established through indirect questions for instance; "What do you think of living with many people in the same house?". The examples above show, however, how I use the concept. Thus the replies classified under the heading "crowding" in chapter 9 are of the character described above.

The replies to the open attitude questions could be expected to reveal how important crowding is considered to be in relation to other aspects of the total housing situation. Using the information given in some tables in chapter 9 it could be noted:

- that 18 per cent of the reasons given for appreciation (negative or positive) of previous housing experiences are classified under "crowding" (table 9:2);
- that lack of space is the most common reason (besides standard of construction) for the last change of residence, especially for people moving from private urban Swahili type houses (table 9:5);
- that lack of space is the most common reason for the desire to move from the present place of residence for all house types except the private S houses (table 9:10), and
- that crowding is rather frequently mentioned as a problem of the house type, especially in the F and the two S house types (table 9:18).

Although there is cause to question the system for classification of replies (see section 9.13), I think one may conclude that lack of space is considered to be a serious problem for a certain proportion of the households (at least 13 per cent).

11.14 Relations between objective and subjective measures of crowding

In section 9.12 it was shown that those who are objectively least overcrowded (occupants of the F houses) are those who complain most about lack of space. This seems to imply that there is no correlation between objective and subjective measures of crowding. The question can be further investigated, however, before one jumps to conclusions. Thus I want to discuss the following assumptions:

Assumption 3⁹: There is a correlation between objective and subjective measures of crowding.

In order to make a complete investigation, all the objective measures should be correlated with all the subjective ones, but as persons per room seems to be the objective measure most relevant to the subjective measures applied, and because my data do not allow for proper statistical testing, I restrict myself to discussing just a few of the measures, more as a problem orientation.

In section 11.12 we have already seen that

Table 11:13. Overcrowding (p/r) and replies to certain attitude questions (per cent).

<u>Overcrowded:</u>	Not	Mode- rately	Very	Extre- mely	n
<u>Desire to move, open question</u>					
Would like to move for lack of space	18	28	37	18	57
Would like to move for other reasons	30	31	20	20	61
Would not like to move	22	34	24	19	321
<u>Worst thing about the house</u>					
Lack of space	20	46	20	14	35
Other	23	32	28	18	290
<u>Problems about the house</u>					
Lack of space	29	31	21	19	62
Other	30	30	26	13	141

there is a clear correlation between persons per room (or age of oldest child sleeping in the same room as its parents) and desired use of an extra room. It would be illogical to compare this subjective measure with other, objective, measures. In table 11:13 the objective measure persons per room has been correlated to some other subjective measures.

Table 11:13 does not reveal any clear correlations. Those who would like to move for lack of space are very overcrowded to a proportionally larger extent (marked figures), but this correlation is contradicted by the fact that the extremely overcrowded respondents are almost equally represented for all types of replies.

*

It would be wrong to conclude that there is no correlation between objective and subjective measures of overcrowding. Such a conclusion would mean that no heed would have to be paid to crowding conditions when planning a housing area or when constructing a house. Instead, a more plausible explanation has been indicated: that open attitude questions are unreliable measures of subjectively experienced overcrowding. The difficulty in classifying replies into those which are related to overcrowding and those which are not, is also apparent.

My conclusion from these observations is that the feeling of being overcrowded is dependent on so many personal, social and cultural as well as physical factors that general attitude questions cannot be used as indicators of the subjective experience of overcrowding. However, when an attitude question is made as concrete as the one about desired use of an extra room it can be used as a measure of one aspect of the subjective experience of overcrowding.

In chapter 9 it was pointed out that it is often impossible to make a clear distinction between the various types of replies. Concerning overcrowding one could, for instance, ask if the reply "lack of space" can be detached from replies like "I want a room of my own", "there are many quarrels" or "I do not like the people in the house". In other words: a household with more than average private, indoor dwelling space could still feel overcrowded if the house type imposes some kind of dependency on neighbours, with whom friendly cooperation is lacking.

11.15 Overcrowding and house type

These observations bring us back to the original problem concerning differences between the house types. For the purpose of discussing the subjective factors of overcrowding in the respective house types assumption 3 can be broken down into the following partial assumption:

Assumption 3¹⁰: The spatial organisation of the S houses promotes a stronger feeling of overcrowding than that of the other house types.

In reply to the question about desire to move we have seen (section 9.8) that "lack of space" is the most frequent reason given for all house types except the private S houses. This does not reflect the objective crowding situation, but rather an incongruence between demands and the objective situation. People in the private S houses could feel as overcrowded as those in the NHC S houses, but the former probably find that a low standard of construction (associated with low status) is a more important reason for their desire to move.

In section 9.11 it was found that the open attitude question about problems of the house type (question 3) was rather useful in revealing differences between the house types. I also believe that the classification of replies does not contain as much confusing overlapping as other classifications. The distribution of replies on house types (table 9.18) shows that complaints about too small or too few rooms account for roughly the same proportion in the S and Q houses (15-17 per cent), while it is somewhat higher in the F houses (24 per cent).

Thus the one house type which imposes no neighbourly interdependence at all has the highest proportion of complaints about lack of space. This seems to imply that assumption 3¹⁰ should be rejected, but I am more inclined to interpret the observations as a support for the tentative conclusion above, that factors like social status and level of aspiration are more liable to determine the replies to the attitude questions than are spatial factors like objective measures of overcrowding.

Differences in aspirations between the house types are revealed in reply to the question about desired use of an extra room.

Table 11:14 shows that the most frequent reply by respondents in the S houses is that

Table 11:14. House type and desired use of an extra room (number of households).

	NHC S	Private S	Q	F
Children and parents would sleep separately	25	4	<u>32</u>	5
Would keep it as a living room	<u>78</u>	<u>23</u>	8	2
Would keep it for guests	26	10	27	<u>13</u>
Other	13	16	10	5
Total	142	53	77	25

they would keep an extra room as a living room. In the Q houses, which in most cases have something resembling a living room, this reply is the least frequent. In the F houses the most frequent reply is that it would be kept as a guest room (see marked figures).

Thus respondents in the S houses, who usually have only one room, seem to aspire for a second room for living room purposes, while people in the F houses, who usually have both a living room and two bedrooms already, feel the lack of a guestroom (for people staying overnight) as their priority. The fact that such a high proportion in the Q houses is indicated for separate sleeping does, I think, show that the "living room" can not easily be used, or is not desired, as a second sleeping room.

These observations show that people in the three house types think of different things when they complain about lack of space. Therefore it seems as if assumption 3¹⁰ should be discussed only for specific aspects of overcrowding.

11.16 Conclusions

Most of the ten sub-assumptions discussed in this chapter have not been directly linked to the differences in spatial organisation of the house types. Instead at least six of the partial assumptions concern various general aspects of overcrowding. I think that this procedure has proved to be correct.

Concerning private, indoor dwelling space it was found that the differences between the F houses on the one hand and the other house types on the other hand are larger than the differences between the S and Q houses (assumptions 3¹ and 3²). Concerning communal and outdoor dwelling spaces it was found that great differences exist between the three house types, but it is doubtful whether the lack of one type of space can be compensated by ample supply of other types of space (assumption 3³).

I believe that the best approach is expressed in assumption 3⁴, saying that overcrowding is related to the functional use of dwelling space. This approach mainly applied to the private rooms (assumptions 3⁵ to 3⁸), a procedure which is justified by the fact that this dwelling space proved to be the most frequently used, and by the fact that the respondents themselves seem to associate the problem of crowding with the lack of private dwelling space (section 11.13). However, there is cause to study the functional use of other dwelling spaces as well.

The discussion about sleeping arrangements and the desired use of an extra room

show that the number of persons per (bed-) room remains an important objective measure of overcrowding. Overcrowding of this kind is mainly a problem for households with children (section 11.7). For them it is a priority to obtain another room to provide for separate sleeping. For at least 13 per cent of the studied households there is an incongruence between attitudes to the age of the oldest child sleeping in the same room as its parents and the actual sleeping situation of the household.

Living and guest room functions should obviously be provided for in the form of private dwelling spaces, if expressed desires are to be met. The problems of double use of rooms, of furniture and other spatial arrangements within the room, and how dwelling spaces of different types should relate to each other, are not sufficiently analysed.

Much remains to be done concerning the relations between objective and subjective overcrowding. The subjective experience of overcrowding seems to be such a complex phenomenon that it can not be measured with general attitude questions. Some of the results presented run contrary to assumption 3⁹, but instead of rejecting this assumption I find reason (especially in section 11.15) to conclude that people in different social and spatial situations think of different things when replying to questions on overcrowding.

*

Some of the objective measures of overcrowding (e.g. those discussed in sections 11.4, 11.5 and 11.6) are directly deduced from the spatial organisation of the house types, and thus support for assumption 3 is self-evident in what concerns them. For other aspects the relationship is less evident.

Perhaps the widest (and vaguest) definition of overcrowding is the one saying that all dwelling spaces should be adequate for the (actual or desired) activities performed (section 11.8). Nevertheless I think that this approach is the most sympathetic one. It is probably not so difficult to establish what "adequate dwelling space" means if the functional requirements are known, but as these are seldom formulated by the users themselves, the problem is to determine which activities should be performed in what way.

My discussion of subjective factors of overcrowding seem to support my previous observation that attitude questions are useful only when concrete and corresponding to the consciousness of the respondent. If a user of a house is able to influence the spatial organisation of this house his consciousness is likely to increase so that he could specify, for instance, which spatial factors affect his

perception of crowding.

But even when the user of a house is regarded as an expert, the researcher or the planner has a problem of interpretation and an obligation to put the demands into a wider theoretical framework. As far as crowding is concerned a few such theoretical attempts

have been made, attempts which have come to my knowledge only after most of the above conclusions were drawn. In order to trace weaknesses in my own approach some of these theoretical approaches are discussed among the general conclusions of this thesis (chapter 17).

NHC urban Swahili type house in Magomeni. The flag in front indicates that here lives a ten-cell leader. The house owner runs a little business on the verandah.



12 Neighbourly contact

The problem of social relations between co-occupants and other neighbours has been discussed in passing in some of the other chapters. Here these discussions will be summarized and related to the specific study of neighbourly contacts in the S and Q houses. To a large extent my approach to the problem has proved ineffective, but I have made it a point to present the whole procedure and discuss the nature of my mistakes in order to be able to contribute to a better theoretical understanding of the problem.

12.1 Crowding and contact

In the preceding chapter I pointed out that one's sense of crowding to a large extent depends on one's neighbourly relations. It can be asked whether the contrary is also true: that one's crowding situation affects one's neighbourly contacts. This has been assumed by some scholars who have theorized on the subject. Thus, for instance, Choldin (1972) agrees with a theory saying that "frequencies of contact and communication are potentially multiplied as density increases" (p 8). The same idea is expressed more specifically by David M. Heer:

"... when population density is high, an individual is in close physical contact with many more persons than when it is low. It is then likely that both the total number of persons with whom he will have social contact, and the range in types of persons, will vary directly with the population density." (Heer 1968:32).

Also the quality of contacts is supposed to vary with population density:

"... a higher proportion of all social contacts in the area of high population density might be expected to be superficial or secondary relationships which are functionally specific and affectively neutral, whereas a high proportion of all contacts where population density is low would be primary relationships, functionally more diffuse and expressive of stronger emotions." (Heer 1968:32).

Heer and Choldin are discussing population density at the macro-level, but the theory is also assumed to be valid for urban residential areas. Thus Schorr, writing on slums in the USA, concludes:

"Whether one evaluates physical proximity as crucial or secondary, it seems clear that it has an influence on social relationships." (Schorr 1970:329)

The theory seems easy to verify in cases where one's neighbours are so far away that one can not reach them, or in cases where

they are so close that one can not avoid contact, but in "normal" urban housing areas I think that there is such a high degree of freedom of choice concerning contacts between neighbours that factors other than population density will be decisive for the frequency and nature of neighbourly contacts.

However, the crowding situation in many urban Swahili type houses seems to be such that contacts can not be avoided. A researcher with experience from rental housing in Ghanaian suburbs (Peil 1972) maintains that houses (similar to the urban Swahili type house) are so crowded that friction is inevitable. Main assumption A can be understood to include such an assumption about the urban Swahili type house.

At the micro-level there are several other aspects of crowding apart from number of persons per surface unit of housing area which may affect neighbourly relations. At this level it could even be postulated (as has been done by Wilner et al 1962:160) that there should be enough space (of a suitable type) for contacts to occur.

Here the purpose is not to concentrate on the influence of crowding, but to evaluate the role of neighbourly contacts in general and in relation to the three main assumptions presented in section 6.3.

12.2 Definition of the problem

When defining the terms of the basic assumption in section 6.2 it was stated that the term "social life" is used mainly to denote "relations between people". Attitudes to housing, use of dwelling space and crowding experience - which have been the subject of the three preceding chapters - are also regarded as aspects of social life, but a factor such as neighbourly contacts is more vital when talking about "relations between people" and "social life". With a slight alteration of the basic assumption the following assumption can be formulated:

Assumption 4: There is a correlation between neighbourly contacts and the spatial organisation of house types.

This is a classical question within the discipline of building function analysis, and when planning my field study I considered it the most central assumption to be dealt with. I believed that the existence of such large differences in spatial organisation between the three house types would provide extraordinary opportunities for testing the assumption. However, the assumption had to be operatio-

nal. I had to form an idea of how neighbourly relations are affected by the three house types. The starting point for the formulation of sub-assumptions were statements about the negative influence of the urban Swahili type house, such as:

"There is a great housing shortage in the City. Sixty per cent of all families live in one room. Usually there are four to six families living in one house... With such overcrowding, and with families using the same washing and kitchen facilities, tensions are inevitable. Where families with various income levels live in the same house, jealousy and envy arise." (Swantz 1970:163)

Swantz gives overcrowding (lack of separate dwelling spaces) as a reason for bad relations between co-occupants, but he also points to the fact that many facilities and dwelling spaces are shared in the urban Swahili type house. Both these aspects can be said to be included in main assumption A about interdependence between the occupants of the urban Swahili type house.

A more detailed and sympathetic picture of neighbourly relations in the urban Swahili type house is given by Leslie (1963):

"... they (employed men) may not see much of each other, particularly if they are not otherwise connected by tribe, temperament or job; but their wives or girl-friends will sweep the corridor in turn, will wash dishes together and use the same fire, will sit and talk the morning through together. The men may not make friends with the others and may have their own friends outside, but they cannot fail to be affected by the close living of the other families; perhaps his wife complains of the better food of the other families, or the more frequent provision of a new garment; food particularly can be a frequent source of friction..." (p 84)

Thus Leslie, too, suggests that there is more interdependence, and interaction, between occupants of the urban Swahili type house. Like Swantz he points to differences in standard of living as a source of friction between co-occupants, but he also mentions differences in tribal affiliation, temperament and job. And perhaps more important: he makes a distinction between "home-bound" occupants (house wives) and "job-bound" occupants (employed men), suggesting that neighbourly relations are more important to the former than to the latter.

When planning my field study I was also influenced by Elisabeth Wood's writings on social aspects of community design. Among other things she wrote:

"The principle of common use (as of a pump, a spring, a place for washing clothes) as a means of expediting acquaintance has been demonstrated since time immemorial. It is, of course, a two-edged sword - the facility is the scene or cause of quarrels, too. But these usually occur when there are too many users for the facility." (Wood 1967:32)

I want to emphasize that after the partici-

pant observation study I did not have a determined opinion about the character of neighbourly relations in the urban Swahili type house: whether the positive or the negative aspects were dominant. In fact, I believed that there would be both positive and negative effects. I believed there would be more freedom of choice in the Quarter type houses, both in avoiding and in approaching one's neighbours (main assumption B).

When selecting my problem areas I was influenced by classical housing studies such as "Social Pressures in Informal Groups" by Festinger, Schachter and Back (1950). This study found (for students in two American housing communities) that a correlation existed between "functional distance" between people and the occurrence of neighbourly contacts. However, my study would not focus on neighbourly contacts in general, but on relations between occupants of the same house. Some kind of contact between all co-occupants of the urban Swahili type house was taken for granted; the problem was to find out whether the contacts were mainly negative or mainly positive.

The main hypothesis of Festinger et al included a subordinate clause, which read: "other things being equal". Obviously Festinger et al managed to keep "other things" such as length of residence, type of household, age and sex distribution etc under control so that "functional distance" could be isolated as the independent variable. In my study it gradually became evident that the two main variables of assumption 4 could not be isolated.

12.3 What is a good neighbour?

The concept of "neighbour" (jirani" in Swahili) usually refers to people living within a certain proximity of one's own house. In relation to the urban Swahili and the Quarter type houses a distinction could be made between "co-occupants" (other households in the same house) and "neighbours" (people in other houses). For the purpose of the discussion in this chapter, however, "neighbour" is taken in a more general way, including other households in the same house, unless otherwise stated.

In order to arrive at a general understanding of people's experience of and attitudes towards neighbours the following questions were asked in the interview:

4. What kind of people do you like to have as neighbours?
5. What kind of neighbours bring most troubles to others?

I believed that it would be impossible to get any reliable answers to direct questions about the respondent's relations to his neighbours. Such questions would be too sensitive, especially if the interview could be overheard by one's neighbours. I thought it would be easier to answer questions about neighbourly relations in general and that one's own situation would thereby be indirectly revealed.

Most replies to question 4 were rather vague. As many as 35 per cent answered

"Don't know" or "Anyone", while others mentioned general neighbourly qualities, replies such as:

- People with good behaviour.
- Good people.
- Anybody who is understanding.
- Co-operative and friendly persons.

11 per cent of the replies made reference to inherited qualities such as race, sex, tribe or social group. The household composition of the neighbour was mentioned by 11 per cent, replies such as:

- Bachelors like myself.
- Good people who don't quarrel, preferably married couples.
- A mixture of married and unmarried people because they can live more peacefully and the wives can sweep the toilets, corridor etc.
- Married people like me, who can give us company.

The large proportion of replies such as "Don't know" and "Anybody" may reflect an indifferent attitude to neighbourly relations, but may also indicate that it is difficult to specify neighbourly qualities. Those who expressed an opinion probably did this on the basis of their own experience. Only in a few cases was explicit reference made to the house type (always to the urban Swahili type house). As almost all respondents have some experience from the urban Swahili type house, I believe that they often had neighbourly relations in this house type, in mind, besides those of their present one, when replying. The distribution of different types of replies on house types indicates no special connection.

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In reply to question 5 about what kind of neighbours create most troubles for others, 23 per cent of the respondents said they don't know. Some referred to lacking experience from neighbours. The proportion of these kinds of uncertain replies is lower in the NHC S than in the other house types. Most replies referred to certain social categories, replies such as:

- Old people who are always envious of young people.
- The hooligans, those without jobs.
- Non-educated drunks.
- Witchdoctors.
- The Zaramos, who do not co-operate with people from up-country.

Another frequent type of reply includes statements about various neighbourly qualities, replies such as:

- Those with bad behaviour such as quarreling and unreliable people.
- People who backbite and suspect you.
- Envious neighbours.
- People who do not like to visit or to be visited by their neighbours.
- I don't know about this area, but those with little income where I stayed previously were a problem in that they could not afford to eat as many times as others.
- Quarrelsome homeowners who put so many restrictions on the tenants.
- People who are curious about other people's

life in a negative sense. Why is he married? Why does he eat this or that?

Most respondents seemed to have an idea of what bad neighbourly qualities are. Some replies presuppose a close interdependence between neighbours like in the urban Swahili type house. The differences in replies between the respective house types seem to be insignificant. I conclude that questions 4 and 5 are too general to give the kind of information needed to test assumption 4. However, most respondents seem to be aware of the importance of good neighbourly relations. Many replies seem to refer to the interdependence between co-occupants in the urban Swahili type house, but only a few express this explicitly.

12.4 Knowing one's prospective co-occupants

If interdependence between co-occupants is imposed in the urban Swahili type house, and if certain kinds of people go better together than others, there are good reasons to find out about one's co-occupants before moving to a new house. This can be expressed as follows:

Assumption 4¹: People in the S houses are better informed about the social situation in the house before moving in than people in the Q houses.

When planning the field study I decided to include some questions about this in the interview although Leslie (1963) had strongly affirmed that the reply is negative by saying:

"There is no evidence that people choose their rooms by seeing who the other tenants are. They look only at the type of accommodation and the rent; except that they have often heard of the vacant room from one of the tenants, so that they will at least know him before they go there." (p 73) --- "Considering the close juxtaposition of a tenant to the other occupants it is surprising that a prospective tenant makes no inquiries at all about the other tenants, and most express indifference even as to the tribe of the others..." (p 85)

I had no reason to doubt that Leslie's conclusion was correct, but as his study was made a long time ago and as he has not presented any empirical evidence of his conclusion, I wanted to see if Leslie's judgement was in fact justified. In the interview, the following questions were asked about this problem:

16. (If S or Q house) Before you moved into this house, did you already know someone in the house?
17. Did you know someone in the same street?
18. (If S or Q house) Before you moved into this house did you know:
 - a) how many people there were in the house?
 - b) how many children there were?
 - c) how many of the tenants that were married?
 - d) the religion of most people in the house?
 - e) the tribes of most people in the house?

Table 12:1. House type and acquaintances in the house/ street before moving.

	NHC S	Private S	Q	F
Someone in the house (%)	37	46	27	-
n	189	65	120	-
Someone in the street (%)	39	28	20	17
n	203	72	120	47

f) work of most people in the house?

The proportions of positive replies to the two first questions are seen in table 12:1.

Question 16 is relevant only to those who have moved into a house where someone was already living. Of those, 35 per cent said they already knew someone in the same street before moving, varying from 17 per cent in the F houses to 39 in the NHC S houses.

These figures should be compared to those given in section 9.5 about way of obtaining their present room/house. 43 per cent of the respondents said that they were assisted by friends or relatives. People who have "married" into a house are also included in the figures. Such acquaintances probably constitute the major part of the 27 per cent who already knew someone in the Q houses. Because of this, and because rooms in the Quarters are distributed by the NHC /City Council, the differences between the S and Q houses found in table 12.1 can not be regarded as support for assumption 4¹. When discussing the replies to question 18 it must be kept in mind that a large part of the respondents knew someone in the neighbourhood before they moved in.

Information about one's prospective co-occupants could be obtained by asking the house owner (in case of the S houses) or representatives of the NHC/City Council (in case of the Q houses) or any of the tenants already living in the house. Those who already knew someone in the neighbourhood would probably ask this person.

In reply to question 18 only a very small number of people said they knew anything about their prospective co-occupants. Single people seem to have known a bit more than members of other types of household, but the figure for "knowing" never exceeds 17 per cent. Of the six factors listed marital status is best known, while occupation, number of children and religion of the majority of the prospective co-occupants were the least known factors. The distribution by house types of replies about the most well known factor is seen in table 12:2.

Table 12:2. House type and information about marital status of prospective co-occupants.

	NHC S	Private S	Q
Per cent "yes" replies	16	11	5
n	186	63	119

Three times as large a proportion of the respondents in the NHC S houses as in the Q houses said they knew the marital status of their prospective co-occupants. Considering the fact that as many as 37 and 46 per cent in the S houses knew someone in the house before moving in, it is remarkable that only 16

and 11 per cent respectively have bothered to inquire about the other occupants. Thus it seems as if assumption 4¹ should be rejected and that Leslie's conclusion is correct.

12.5 Are bachelors not accepted in the urban Swahili type house?

In the Quarter type houses rooms are, in principle, allotted to people on the waiting list of the City Council/National Housing Corporation. The fact that families with children, Christians and people with permanent employment are more frequent in this house type, probably reflects the authorities' priorities for allotment rather than a freedom of choice for people of a certain type to flock together. When given a flat in a Quarter type house today, the only condition for being accepted is that one should pay one's house rent and electricity costs promptly. The same is true for the NHC one-family units.

The situation is different for the urban Swahili type houses. In these the house owner may have a strong influence upon the social situation in the house. Leslie gives an example of such a case:

"... the owner of this house had, whether by selection of his tenants or by his own example, managed to impress his own character and ways on the whole house. --- Several of the tenants have clearly come to the house and stayed there because they liked him..." (Leslie 1963:73)

If the house owner is living in the house himself (which is usually the case) it is to be expected that he selects his tenants so that conflicts between co-occupants are avoided or minimized. That such a mechanism is operating in the urban Swahili type houses has been strongly asserted:

"... single men are unwelcome as there is always the risk of their getting involved with the wives of the house, particularly if their working hours do not coincide with those of the husbands." (Leslie 1963:72).

"Single men can hardly get accommodation in houses, because the owners and other renters fear that they will seduce their wives or daughters. Therefore to find housing, many men simply take a woman without marriage in order to get a room." (Swantz 1968:5)

These statements can be reformulated as a sub-assumption to assumption 4:

Assumption 4²: It is more difficult for unmarried people to get a room in an S house than it is for married people.

The replies to the specific question about

this (no 53) reveal that 72 per cent of the respondents said it is more difficult for a single person than for a couple to find a room (in any house type). Since it is a well known fact that house owners want stable rent payers, and since people usually do not marry or bring their families to town until they have permanent employment, it is possible that unmarried people are unwelcome for this reason and not necessarily because the collective organisation of the urban Swahili type house creates conflicts between unmarried and married people.

Before assumption 4² is written off as a sub-assumption to assumption 4, however, the problem can be discussed a bit more, by examining the general conditions which house owners stipulate for accepting new tenants. In the interview the following question was put about this problem:

13. (If tenant) Did the house owner make any conditions for accepting you as a tenant? Which?

In the Q and F houses almost all respondents said that no conditions were made, or that the only condition was that rent should be paid promptly. These two types of reply were also the most common ones in the S houses, but other replies were also frequent. For instance, a number of replies referred to a prescribed behaviour about house cleaning, coming home late at night, drinking, quarrelling etc:

- I must come home before 2 a.m., respect the other tenants...
- Not drink too much.
- Lights should be out at 10 p.m.
- ... sweeping of corridor and courtyard.
- Water should be well used, use latrine for bathing...
- I must not be a drunkard, should deck my room...
- ... no guests overnight.
- ... not to molest other house occupants.

In at least seven of the 41 studied S houses the house owners seem to have made conditions about the marital status of the tenants. In all these cases the condition was that the tenant must be married or be about to marry. In most of these seven houses there were, nevertheless, one or two unmarried persons who said that the house owner did not make any condition for accepting them. One tenant said that "as unmarried I was supposed to pay a higher rent" (.). In some cases single tenants were accepted on condition that they would not quarrel or "seduce others' wives".

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How many unmarried applicants who have been turned down can not be assessed from the replies to the interview questions. It is interesting to note, however, that unmarried people have the shortest waiting time for obtaining their present place of residence (in average 10 weeks compared to 18-25 weeks for other types of household, according to table 9:3). This is not necessarily in contradiction with assumption 4² as married people

could prefer to wait longer for a decent place although they are more easily accepted as tenants when they finally apply for a room.

Unmarried applicants who have been turned down, are not included in the sample. House owners who turn down applicants do not have to give a reason for this. Therefore it can not be established how common it is for house owners to select tenants by marital status. And more important: it can not be established if unmarried people are rejected in order to avoid "tension and suspicion", or because they are believed to be unreliable rent-payers. My guess is that the house-owner's main interest is tenants who pay rent promptly and continuously, and that marital status is just one (but probably a rather important) factor for his judgement. Thus I am inclined to reject assumption 4² as a sub-assumption to assumption 4.

However, those replies to question 13 which refer to a prescribed behaviour of the tenants seem to refer to difficulties of the collective organisation of the S houses. I take these replies - which constitute a majority of those who have specified any conditions for being accepted as a tenant - as a support for a slightly different sub-assumption:

Assumption 4³: The interdependence between occupants imposed by the spatial organisation of the S houses is reflected in the conditions for being accepted as tenant.

As the Q houses do not have private house owners, the Q and S houses can not be compared in this respect, but leaving the comparative aspect aside it seems obvious that the replies about house cleaning, coming home late, drinking, quarrelling and seducing others' wives to a large extent reflect the interdependence between occupants imposed by the collective spatial organisation of the S houses.

12.6 Homogeneity in social composition of S and Q houses

In the quotations above from Swantz and Leslie it was indicated that large differences in certain respects between co-occupants stimulate friction. If this is the case, and if house owners in the urban Swahili type houses want to avoid friction by selecting tenants of the same sort, while no such mechanism operates for the Quarter type houses, the S houses ought to be more homogeneous in social composition than the Q houses.

Assumption 4⁴: The S houses are more homogeneous in social composition than the Q houses.

The Dar es Salaam Master Plan team does not agree with this assumption. Instead it maintains that there is too much heterogeneity and that, therefore, "the Swahili house does not form a social unit" (Master Plan TS 2 1968:103). Disregarding the unclear use of the concept of "social unit", a similar idea

Table 12:3. Homogeneity and house type (per cent of total number of respondents).

Type of household		NHC S	Private S	Q	Total
Strong homogeneity	All unmarried	8	6	3	6
	All families	10	0	26	13
Weak homogeneity	1 unmarried + families	3	10	41	16
	1 family + unmarried	11	15	8	11
No homogeneity=other alternatives		67	69	21	53
Total		99	100	99	99
<u>Religion</u>					
Strong homogeneity	All Muslims	0	13	0	2
	All Christians	9	10	26	14
Weak homogeneity	1 Muslim + Christians	13	17	23	17
	1 Christian + Muslims	11	7	5	8
No homogeneity=other alternatives		67	54	46	58
Total		100	101	100	99
<u>Income</u> ^x					
Strong homogeneity=2 or less intervals between extreme values		18	38	37	27
Weak homogeneity=3 or 4 intervals between extreme values		41	26	19	32
No homogeneity=5 or more intervals between extreme values		41	36	44	41
Total		100	100	100	100
n (all 3 variables)		203	72	121	396

x The income intervals are the same as in a contemporary study of family life in Dar es Salaam (Freyhold & Westergaard 1969), namely:

1. <100 sh/m	4. 250-349	7. 600-799
2. 100-179	5. 350-449	8. 800-999
3. 180-249	6. 450-599	9. 1 000≤

has been expressed by Peil when writing about Ghanaian tenement houses:

"There is seldom any relationship between members of different households, though resident landlords sometimes favour families of their own background and occasionally men from the same village share a house. Generally, there is considerable ethnic, religious and occupational mixing in the larger houses." (Peil 1972:3)

Whether the S houses are in fact more homogeneous than the Q houses will be discussed in this section, while the question of correlation between homogeneity and neighbourly contacts will be discussed in section 12.14.

Besides type of household, religion and income were also considered relevant for homogeneity studies. For reasons of resources the analysis is restricted to these three aspects, although homogeneity in factors like occupation, length of residence in Dar es Salaam, tribal affiliation and others may also be important. The operational definitions of homogeneity/heterogeneity according to the three selected variables, as well as the existing situation in the S and Q houses, may be seen in table 12.3.

Table 12:3 shows that the degree of homogeneity varies greatly between the house types in all three aspects. Concerning type of household the table shows that 6 per cent of the respondents live in houses with only unmarried persons, and that 13 per cent live in houses with only family type households (couples, nuclear and extended families). The latter proportion varies from nil in the private S houses to 26 per cent of the respondents in the Q houses. In the Q houses the most frequent combination (41 per cent) is a house with one household of unmarried person(s) and three families. In the S houses the absolutely most frequent alternative (about 2/3 of the replies) is the one called "no homogeneity", comprising combinations which do not fall within the four specified in the table. 19 per cent of the respondents live in strongly homogeneous houses and 53 per cent in what has been called heterogeneous houses.

Concerning religion table 12:3 shows a similar distribution in the total column. However, the distribution over house types is different. Respondents living in "all-Muslim" houses exist only in the private S houses. The proportion of respondents living in strongly homogeneous houses is small in the NHC S houses (9 per cent) and larger in the other

house types (23 and 26 per cent). Strangely enough, the most frequent combination in the Q houses (46 per cent) is the one where two Muslim households live together with two Christian households (heterogeneous).

Concerning homogeneity in income table 12:3 shows that the proportion of respondents living in strongly homogeneous houses is smaller in the NHC S houses (18 per cent) than in the other house types (37 and 38 per cent). Surprisingly, the proportion of respondents living in heterogeneous houses is highest in the Q houses (44 per cent as compared with 36 and 41 in the S houses). 27 per cent of all respondents live in houses where the extreme values of the incomes fall within two bordering intervals. Of course, even a difference in income from shs 200 to shs 300 a month (strong homogeneity) permit considerable differences in material wealth, but it could still be expected that a gap from shs 200 to shs 600 a month (heterogeneous) would stimulate more friction between co-occupants.

To be able to evaluate these results properly the figures in table 12:3 should be compared to a random distribution of types of household, religion and income in the respective house types. The fact that the number of households varies strongly (from two to nine) in the S houses, makes it difficult to calculate the random distribution exactly, but my rough estimates show that the proportion of respondents living in heterogeneous houses is considerably larger than expected in all cases except that for type of household in the Q houses.

The fact that the S houses are in fact more heterogeneous than even a random distribution would imply, can be explained by reference to the factors indicated by Peil and the Master Plan team: that house owners prefer tenants different from themselves (and each other) in order to secure prompt and continuous payment of house rent (and perhaps to avoid unity between the tenants). However, the fact that even the Q houses often tend to be more heterogeneous than ought to be the case throws some doubt over this explanation. The paradox is most obvious in case of income distribution, for which the house type with the lowest number of households (the Q houses) has the largest proportion of heterogeneous houses.

It seems clear to me that assumption 4⁴ must be rejected.

12.7 Quarrels

The fact that house owners do not try to obtain homogeneity in social composition in their houses, does not mean that friction between co-occupants is not a problem, or that friction is not stimulated by heterogeneity.

One indication of friction is the occurrence of quarrels between neighbours. It has been stated explicitly that quarrels are stimulated by the collective spatial organisation of the urban Swahili type house (Swantz 1968:5).

Assumption 45: Quarrels between neighbours are more frequent in the S than in the Q houses.

As conflicts with neighbours are not willingly admitted, one could not expect direct questions about the respondents' own quarrels to be fruitful. When asked directly, only 7 per cent of the respondents admitted (in reply to question 51) that they had quarrelled with a neighbour. There were more informative replies to an indirect question.

50: What do you think that people usually quarrel most about in this area?

I assumed that persons who were prepared to specify a subject of quarrel would have personal experience of quarrels and, thus, that the frequency of quarrels in the respective house types could be measured indirectly through question 50. By referring to quarrels in the area rather than in the house, the F houses could also be included. I also assumed that replies about the subject of quarrels could reveal whether or not the house type had an influence upon the occurrence of quarrels.

Only 5 per cent of the respondents said that there were no quarrels in the area. 32 per cent said that they did not know, but as many as 60 per cent specified the subjects of frequent quarrels.

The most frequent type of reply concerns relations between the sexes. This problem is discussed separately in section 12.11. Other frequent subjects are payment of rent, children, theft, drunkenness and "witchcraft". Some replies concern the uneven distribution of wealth among neighbours, thus confirming Leslie's observation mentioned earlier. Only a few replies are related to the collective organisation of the (urban Swahili type) house, replies such as:

- Hours of coming back to the house - some come late and disturb others.
- Delays or refusals to pay money for electricity or water.
- House-cleaning duties.
- Sharing of rooms.

These replies are too few to demonstrate whether quarrels in general are more frequent in the S houses. The proportion of respondents who have specified a subject of quarrel is the same in the Q as in the private S houses, and only slightly larger in the NHC S houses (70 per cent as compared to 60 in the other two house types). Naturally, the figure is lower (36 per cent) in the F houses.

The discussion gives no support to assumption 4⁵, but it is difficult to say if this is because the method of investigation is unsuitable or because the assumption is falsified. Perhaps it is even wrong to assume that quarrels is an indication of friction between neighbours. Quarrels might be of a very different nature and may even be considered natural elements of social life.

12.8 Contact with friends and relatives

Before going into the question of co-operation between co-occupants and other forms of neighbourly interaction related to the spatial organisation of house types, I will try to

Table 12:4. Type of household and frequency of visits (replies to questions 33 and 34).

Visits made (%)
Visits received (%)
n (both cases)

Unmarried people	Couples	Nuclear families	Extended families	Total
51	28	28	41	36
37	35	29	36	33
123	43	210	64	440

assess the significance of contacts between friends and relatives in general. A classical assumption is that the prospect of making friends decreases with distance (Festinger et al 1950:156) and that neighbourhood units are formed within a city (e.g. Perry 1939). The object of this study is not to discuss these problems, but to get an idea of the general contact pattern of various types of household and to see to what extent friends and relatives are found to be neighbours.

In order to illuminate these problems the following questions were included in the interview:

19. If you think of the relatives you have in Dar es Salaam, who is living closest to your place? Where is he/she living?
20. Where does your best friend live?
32. With whom did you share your meals yesterday?
33. Did you visit any friends/relatives yesterday? Where? For how long?
34. Did any friend/relative visit you yesterday? For how long?

Question 20 was put only to heads of household, while questions 19 was put to all respondents. In reply to these two questions 15 per cent of the respondents said they have no relative/best friend in Dar es Salaam. As many as 55 and 64 per cent respectively said they have a relative/best friend in the area (Magomeni or Kinondoni). Of all respondents 13 per cent said they have a relative and 19 per cent said they have their best friend in the same street or block, i.e. as neighbours.

Adding those who have either relatives or best friends in the same street/block, 20-25 per cent of the respondents may include neighbours when replying to the question about visits. This proportion does not seem to vary significantly by type of household.

Table 12:4 shows that 36 per cent of the respondents said they made at least one visit the day before the interview. The equivalent figure for receiving visitors is 33 per cent. Altogether as much as 58 per cent either had or made visits. Thus visits (making or receiving) take place, in average, more often than every second day. Concerning receiving visits the proportion does not vary significantly by type of household. Concerning visits made, the proportion is considerably larger for unmarried people and slightly larger for extended families than for couples or nuclear families.

A limited number of respondents (8 per cent in both cases) have answered that they made or received more than one visit. 61 per cent of the visits made were said to have been in the same area as the respondent. The average duration of a visit was estimated at about two hours. The frequency of visits

does not vary by house types of respondent. Respondents with friends or relatives in the same area make more visits than others.

Out of all meals of all respondents (the day before the interview) 16 per cent were said (in reply to question 32) to have been taken together with friends or relatives. The frequency varies considerably by type of household. The proportion of such contacts for the category "several adults" (61 per cent) is almost three times as large as for unmarried people (21 per cent) and almost ten times as large as that for the three family types of household (6-8 per cent). The extremely high proportion of meals with friends/relatives for the group "several adults" is evidently due to the fact that friends/relatives in this case constitute a household and, thus, that the replies for this type of household do not distinguish between neighbourly and non-neighbourly contacts. The difference in proportion between the house types seems to be just a reflection of the different distributions of types of household over the respective house types.

Having meals with friends/relatives requires visiting (if not in restaurant). Using the information from the replies to questions 32, 33 and 34 (and knowing that respondents have an average of 2.5 meals a day) it can be calculated that for unmarried people the average number of visits (made and received) per week is almost the same as the average number of meals with friends/relatives per week (six). For respondents of other types of household the average number of visits per week is less than four, while the average number of meals with friends/relatives is slightly more than one. Thus, for unmarried people most visits seem to be combined with having meals together.

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It is not possible to draw a sharp line between neighbourly and non-neighbourly contacts. Above we have seen that most people have friends and/or relatives in Dar es Salaam and that visiting is a frequently enjoyed activity. We may perhaps conclude that for unmarried people non-neighbourly contacts are more important than for family-type households. However, both neighbourly and non-neighbourly contacts seem to play an important role in the life of the respondents.

12.9 Contact patterns in the respective house types

A series of questions was put in the interview for the purpose of studying neighbourly contacts. Most of these questions concerned

co-operation between neighbours and will be discussed in the next section. Two questions were about contacts in general and will be discussed here:

43. Which persons in this house/street are you most familiar with (apart from your own household)?
44. And which do you have least contact with?

The purpose of these questions was not to measure the frequency of contacts, but to provide a basis for constructing sociogrammes, which could illustrate the contact pattern of each individual house (in case of the S and Q houses), and of the street or block (in case of the F houses). The underlying assumption was the following:

Assumption 4⁶: There is a correlation between contact pattern and house type.

When planning the field study I did not have any clear idea of how the contact patterns would differ between the house types. In the S and Q houses only the contacts between different households in the same house were asked for, while in the F houses contacts in the same street (or block) were to be registered. As the latter type of contacts turned out to be rare and as they are also incomparable to those between co-occupants, only contacts in the S and Q houses were processed for comparison. Question 44 was to be used for the registration of "unfamiliarity" and for tracing inconsistent replies, but as there were very few cases of contradictory replies and because no distinction could in fact be made between "unfamiliarity" and "non-contact", question 44 was not used for further analysis.

In figures 12:I and 12:II there are selections of sociogrammes based on replies to question 43 about familiar contacts between co-occupants. The examples are mainly to illustrate different patterns of contact in houses where all selected interview persons have been interviewed. In many cases all households have contacts within the house, while in others only some contacts have been registered (as in S houses no:s 28, 37 and 30 and Q houses no:s 45 and 56). The patterns vary from only one-way contacts (as in no:s 25, 30 and 59) to only reciprocal contacts (as in no:s 27, 50 and 56). Except for the obvious difference in number of household I find it im-

Figure 12:II. Examples of sociogrammes, indicating contact patterns in the Q houses.

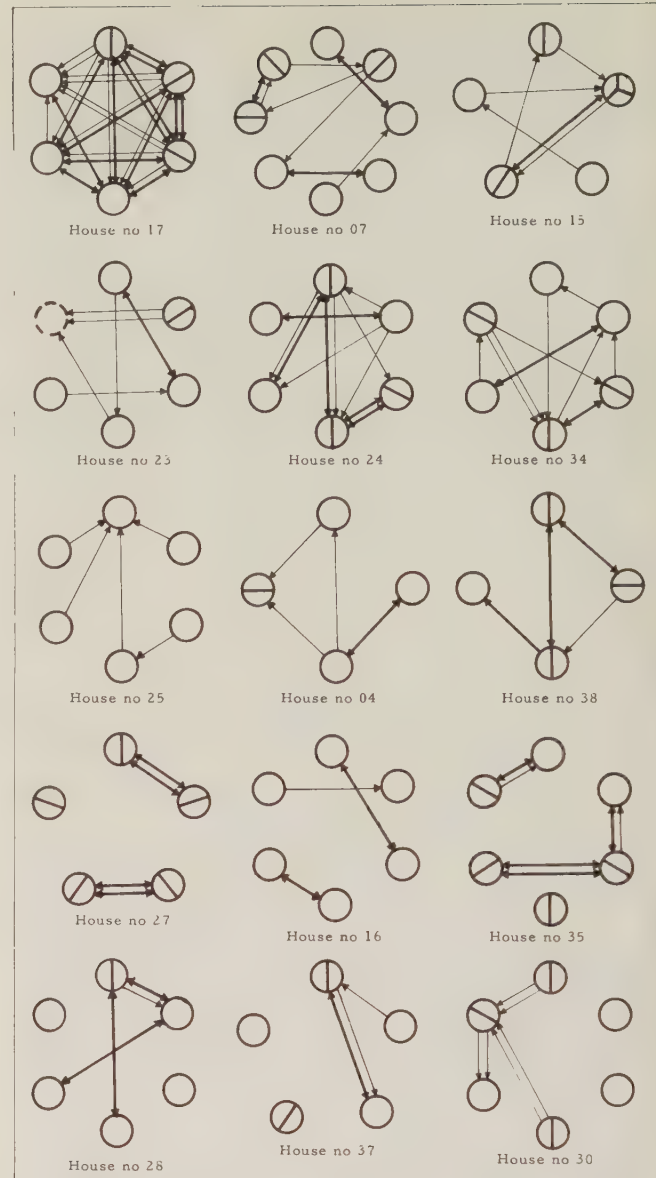
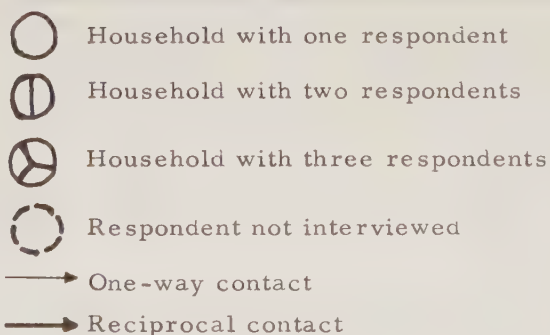
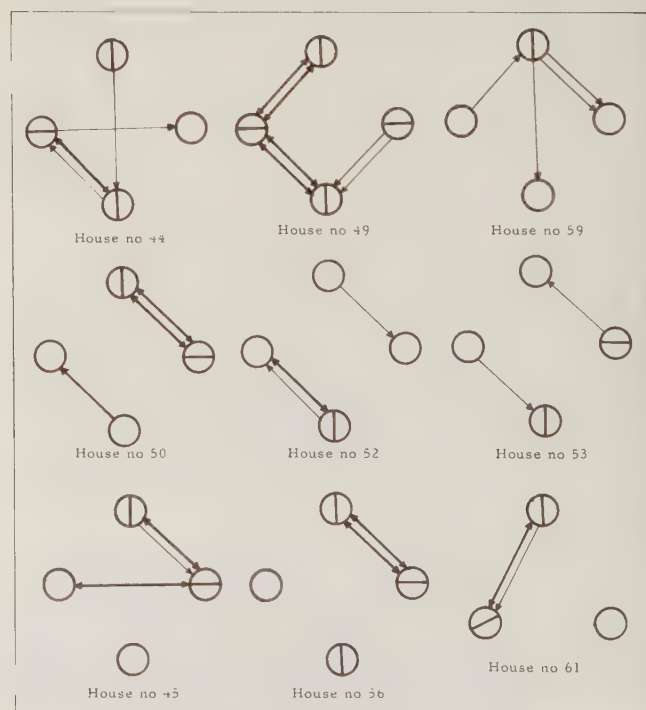


Figure 12:I. Examples of sociogrammes, indicating contact patterns in the S houses.



possible to trace any significant difference in contact patterns between the two house types. Thus no support is revealed for assumption 4⁶.

12.10 Co-operation between co-occupants

Main assumption A does not only imply that friction is stimulated in the S houses, but also that there is more co-operation between co-occupants in this house type.

Assumption 4⁷: There is more co-operation between people in the S houses than between people in the Q houses.

This assumption is implicit in some of the quotations from Leslie, reproduced earlier. More explicitly he also writes that to the "... coastal Muslim, uneducated and illiterate" ... "the Swahili house gives what the Quarters cannot give: companionship at all times - a sort of ready-made club - help in sickness..." (Leslie 1963:87). I think that co-operation is necessary in a house with so many communal spaces and facilities (for instance, locking the main door and cleaning communal dwelling spaces), and that living together in a group stimulates mutual assistance (for instance, help in case of illness, taking care of each others' children etc).

On the basis of my experience in the participant observation study, of Christina Bartlett's experience from another part of Magomeni, and of Leslie's writings on the subject, a series of questions was designed for the interview study:

35. (If S or Q house) Do you ever have your meals with someone else in your house (apart from your own household)?
36. (If Muslim) With whom did you eat during Ramadhan?
37. (If man in couple) Who is cooking for you when your wife is ill or away?
39. (If single or woman in couple) Who is cooking for you when you are ill in bed at home?
40. Have you ever borrowed from anybody in this house/street?
41. Have you ever lent money to anyone living in this house/street?
42. If you have finished your money and cannot borrow, are you able to eat food at another place?
46. (If S or Q house) Has anyone in the house got a key which fits your door?
- 23w. (If own children) Who looks after your children when you are ill or on a journey?
- 24w. (If children of others in the house) At other times, do you usually look after

the children of others in this house?

Some of these questions are relevant only to respondents living in S and Q houses. Others (for instance, questions 40 and 41) were expected to be applicable to neighbourly relations along a street or in a block in an area of F houses, but for the same reasons as those given in section 12.9 the analysis had to be limited to the S and Q houses.

Table 12:5 shows that there is a high frequency (more than 30 per cent) of positive replies to questions about taking care of each other's children (questions 23w and 24w) and about having meals with co-occupants (questions 35 and 36). In the S houses 30 per cent of the single persons and the wives say that they are assisted by co-occupants when ill in bed (question 39). All other types of co-operation measured concern less than 20 per cent of the respondents. Depositing keys at one's neighbour (question 46) is the least frequent type of co-operation (unimportant in households where someone is always at home).

There is a difference between the house types in frequency of contacts. In the case of eating with neighbours (questions 35 and 36), lending money (question 41) and looking after children (question 24w), the difference is slight, but in the case of assistance with cooking when someone is ill (questions 37 and 39), borrowing money (question 40), eating at someone else's place when broke (question 42) and depositing keys (question 46), the difference in frequency seems to be such as to allow for the conclusion that there are more contacts between co-occupants in the S than in the Q houses.

One may object that, as there are more households in average in the S houses, the prospect of making friends and establishing co-operation is also greater in this house type, and thus that the difference in degree of co-operation just reflects differences in average number of households between the two house types. However, most questions about co-operation do not measure the frequency of co-operation, but only if there is any co-operation at all.

Although it was not designed for this purpose, the question which gives the best indication of frequency of contacts in the house is no 43 about most familiar person/household in the house (40 per cent of the respondents mentioned several or no contacts). Its relevance as a measure of frequency of co-operation is supported by its strong correlation with replies to question 35 about having meals together. If the replies to question 43 are used as an indication of frequency of con-

Table 12:5. House type and co-operation between co-occupants (per cent "yes" replies of all respondents in the respective house types)	Question no:	35	36	37	39	40	41	42	46	23w	24w
	S houses (%)	48	37	13	30	17	16	17	10	43	44
	n	256	91	91	130	195	195	105	274	61	55
	Q houses (%)	45	33	7	12	5	13	0	3	44	41
	n	119	24	59	51	77	77	44	121	34	39

Note: w=question put to wives only.

tacts, and if the 22 S houses with seven or less respondents are compared to the 17 S houses with eight or more respondents, a difference is found (0.85 contacts per person in the former as compared to 1.19 in the latter houses), but there are so many uncertain factors involved in the calculations that it seems impossible to draw any reliable conclusions. The fact that there are differences in frequency of neighbourly co-operation between different types of household in combination with the fact that the distribution of types of household over house types is uneven, makes it even more risky to draw any conclusions about assumption 4⁷.

12.11 Conflict between unmarried people and families

The existence of good co-operation between co-occupants does not exclude the possibility that friction may occur at the same time. In section 12.7 it was concluded that the level of quarrels could not easily be measured and that quarrels might not be a measure of friction anyway. However, on the subject of quarrels it was found that quite a large number of replies referred to conflicts between bachelors and married couples in the same (urban Swahili) house. It has also been affirmed by Leslie and Swantz that such conflicts are frequent and related to the spatial organisation of the urban Swahili type house. More precisely Leslie (1963) states:

"... with most of the men away all day, but some still around after doing a night shift, or being unemployed, and the combination of a communal courtyard where all may talk without offence and the private rooms giving opportunity to the tempted, is often too much to resist." (p 75)

Swantz (1968) is also very affirmative and precise on this point:

"Because of five or six families share one house, using one courtyard, one washing and cooking area there arises suspicion, jealousy, quarreling and sexual and marital problems. Because of real or imagined sexual irregularities, many marriages break up." (p 5)

In accordance with these statements the following sub-assumption can be formulated:

Assumption 4⁸: Tension and suspicion between unmarried people and families are more common in the S than in the Q houses.

For the analysis of this problem the following questions were put:

38. (If single man) Where do you usually cook? (If not in kitchen) Why do you not cook in the kitchen?
52. Do you think that single and married people should live in the same house? (If separated) Why?

The purpose of question 38 was to discover whether the mixture of married women and bachelors in the kitchen of the Swahili type house was considered a problem. Reasonably, none of the 25 bachelor respondents in the other house types mentioned this problem. Of the 94 unmarried respondents in the S houses, 28 said they did not cook at all and 26 said they used the kitchen (unknown whether together with women). Of the 40 respondents who said they cooked elsewhere, 17 indicated reasons such as:

- I have no wife and cannot use the kitchen. I use kerosene cooker.
- The tenants came to an agreement that the women should use the kitchen and bachelors would use the store room.
- In the kitchen there are always women cooking and therefore it is uncomfortable for a bachelor.
- Kitchen is for women.

The remaining 23 respondents said that the kitchen is non-existent, in bad condition, occupied or overcrowded, or that it is impractical to cook there. Some of these replies are vague enough to allow an interpretation giving sexual tension as a reason, and some seem to have a character of subterfuge. It is obvious that the mixture of bachelors and (married) women is regarded as a source of conflict in quite a few S houses.

The suitability of mixing single and married people is directly referred to in question 52, put to all respondents. Table 12:6 shows that most respondents are able to express an opinion on this matter.

Only 4 per cent of the respondents said they don't know if single and married people should live in the same house, and 12 per cent said "it depends" (on the character of the individuals). About half of the respondents said that it doesn't matter if single and married people are mixed or not. The proportion of respondents who said that single and married people should be separated varies from about 35 per cent in the three first house types to 45 per cent in the F houses.

Which categories of respondents are most negative to mixing single and married people in the house? A cross-tabulation shows that there seems to be no significant difference between wives and heads of household. Of the five classified types of household, nuclear families have replied "separated" slightly more often than all other types of household. There is al-

Table 12:6 House type and replies about mixing single and married people.

	NHC	Private S	Q	F	Per cent
Don't know	3	3	6	7	4
Doesn't matter	106	36	62	12	49
Separated	67	26	41	21	35
It depends	27	7	12	7	12
Total	203	72	121	47	100
Per cent "separated"	33	36	34	45	35

so a difference between respondents of different occupations: white-collar workers are more negative to mixing than are manual workers. The largest difference in replies to question 52 is that between various income groups: the proportion of replies "separated" varies from 28 per cent for heads of household with a monthly income of less than shs 250, to 50 per cent for those with shs 600 or more.

What are the reasons for separating unmarried and married people in the house? The 155 respondents who answered "separated" were requested to state why they wanted separation. By far the most frequent type of reply refers to suspicion and tension between the two categories of people, replies such as:

- It is more safe for the unmarried of both sexes to live in different quarters from the married so as to clear the suspicion which always exist if they stay together.
- Bachelors are very tough and have no respect for a married woman. They are expert at convincing a woman and this brings about conflict between husband and wife.
- Some husbands don't like to live with bachelors because of jealousy.
- I cannot talk easily with unmarried men (wife).
- Bachelors seduce people's wives.

Another frequent type of reply concerns the practical aspects of the collective life in the urban Swahili type house:

- Bachelors cannot take care of the house as needed - come late at night.
- They don't care to sweep and deck the common areas, i.e. corridor, back yard etc.
- Water bills and electricity are paid equally so a single person is at a disadvantage.

Many respondents have answered vaguely by referring to different habits, traditional customs and suchlike:

- Bachelors or spinsters would not feel very free in their movements and entertainment.
- The life of a married person and that of an unmarried differ greatly.
- An unmarried man does not care to look after neighbours in the house when they have fallen sick. Married people are helpful.
- Traditionally they are separated.
- It is more respectful, especially in the rural areas, because they have different lives to live.

The examples above show that some respondents distinguish between people of different marital status, while others emphasize contradictions between the sexes or different types of household. It seems as if most res-

pondents are more concerned with male bachelors living in the same house as married couples than with suspicion and tension between the sexes in houses where there are only married couples. In my sample only a handful of the unmarried persons are women. It is difficult to say if they are considered as dangerous to harmony in the house as unmarried men.

Employing the division into categories of replies, indicated above, the distribution as shown in table 12:7 is obtained.

Only three respondents refused to specify a reason. Some gave more than one reason. Table 12:7 shows that only respondents in the S houses referred to practical aspects of collective living (marked figure). This indicates that the respondents have the situation of their own house in mind when replying. This in turn seems to imply that suspicion and sexual tension is as frequent in the Q as in the S houses (about 50 per cent in both cases). The most common types of reply in the F houses are those referring to different habits and traditions (marked figures). Possibly many of the respondents answering vaguely are in fact thinking of sexual tension and suspicion as a reason for separation.

*

Although friction between unmarried and married people seems to be a common type of conflict between co-occupants, there seems to be no difference in this respect between the S and Q houses, except where sweeping common areas is concerned, sharing certain bills and using the common kitchen of the S houses (relevant only to this house type). Therefore I think that assumption 4⁸ must be rejected. The differences found in tables 12:6 and 12:7 between the F houses on the one hand and all the other house types on the other hand indicate that attitudes to mixing single and married people in the same house is a question of social status: better educated and better paid respondents seem to be more in favour of privacy and separation.

12.12 Neighbourly contact and attitudes to housing

In chapter 9 about attitudes to housing attempts were made to distinguish "social aspects" from other aspects within the total housing situation. "Social aspects" were essentially defined as relations between neighbours. Although doubts were raised about the possibility to classify replies into various

Table 12:7. House type and stated reasons for separating unmarried and married people in the house (number of reasons).

	S	Q	F	Per cent
Suspicion, tension, adultery	52	22	5	48
Sweeping, sharing bills and common kitchen	25	-	-	15
Different habits, late at night	17	10	8	21
Tradition, custom	0	0	6	4
Others, general	11	8	1	12
Total	105	40	20	100 (n=165)

categories, a number of observations were made about the role of neighbourly relations for one's attitude to one's housing situation.

Concerning appreciation of previous housing experiences it was found (in table 9:2) that social factors constitute the most frequent type of reason given for positive appreciation and the second most frequent type for negative appreciation.

Concerning reasons for leaving last house, it was found that replies under "social factors" are the most frequent ones for all house types, although varying a little depending on the type of social factors mentioned in the respective house types (table 9:5). In section 9.6 it was also concluded that the reasons for moving form a hierarchy in which social relations constitute the second most basic type of reason (after standard of construction).

In the case of reason for desire to move from present house, it was found (in table 9:10) that social factors constitute one of the least important types of reason. Seeing the discrepancy in proportion to this type of reply between reasons for leaving previous house and for desire to leave present house, the following explanation may be suggested: as long as neighbourly relations are good, inclination to move is low or caused by other than social factors, but when people actually decide to move, it is often because neighbourly relations have (suddenly?) deteriorated. However, in section 9.8 it was also concluded that it is doubtful whether it is the differences in spatial organisation which cause the differences in reasons for desire to move between respondents in the respective house types.

Concerning replies about problems with the house type, the category of "social aspects" was replaced by "sharing of facilities". It was found (in table 9:18) that this type of reply is not among the most frequent and that the majority of replies were located to the S houses. In this case it was concluded that a correlation exists between this type of reply and the spatial organisation of house types.

*

The discussion above throws some light upon the role of neighbourly relations for attitudes to housing, but it does not answer the question of whether people who have good neighbourly relations are more positive to their housing situation.

Assumption 4⁹: People whose relations to their neighbours are good are more positive to their housing situation than people whose relations are bad.

If question 2 - "How do you see life in this house?" - is cross-tabulated with various measures of neighbourly contacts, no correlation is found. Respondents with many/good contacts do not give positive replies to question 2 more often than those with bad contacts or none at all. Such a correlation seems to exist for "inclination to move" (question

54 "Would you like to move from this house?").

Table 12:8. Inclination to move and replies to questions 35, 24w and 43.

<u>Eat with neighbours:</u>	No	Yes
Would like to move (%)	30	23
n	224	195
<u>Take care of children:</u>		
Would like to move (%)	28	17
n	54	40
<u>Familiar relations:</u>	None	One or more
Would like to move (%)	32	26
n	82	350

According to table 12:8, for all three measures of contacts, there seems to be a significant difference in inclination to move between those who have and those who don't have neighbourly contacts. The result supports assumption 4⁹.

12.13 Private or communal door?

The question of whether neighbourly relations influence one's attitudes to the housing situation can also be studied in relation to a specific question relevant only to the urban Swahili type house: the placing of the door of the room leading to the corridor or to the outside. Mascarenhas (1966:101) mentions that in the privately built urban Swahili type houses of Kariakoo the doors were often made to open towards the side of the house so as to detach a part of the house from the rest. The rooms in the backyard can also be said to have private entrances provided that the backyard is not completely walled-in and closed so that one has to enter through the main building anyway.

Assumption 4¹⁰: Lack of privacy in the S houses is reflected in a desire to have one's door to the side of the house.

For the discussion of this assumption the following question was put in the interview:

65. Would you like to have the door to your room towards the corridor or outside? (If opinion) Why?

Of the 195 households in the S houses at least seven have their doors leading to the side of the house and at least 10 to the backyard. Thus, these households, contrary to the others, have individual access to their room(s).

It would be fruitless to pose the question unless the respondents know the alternatives well enough to be able to form an opinion about them. Since more than 10 per cent of the respondents already have their door leading outside I thought that most respondents would know about the possibility. They have probably even seen it in use.

Table 12:9a shows that of all 195 respondents in the S houses 2/3 have replied that they would like to have the door of their room opening to the corridor. None refused

Table 12:9a. Present and desired arrangement of the door (only in S houses).

	Towards corridor	Towards outside	Not stated	Per cent
<u>Present arrangement:</u>				
<u>Desired arrangement:</u>				
Towards corridor, because	101	8	19	66
● more secure	(73)	(8)	(15)	
● more contact	(11)	(0)	(3)	
● other	(17)	(0)	(1)	
Don't know/no difference	5	2	3	5
Towards outside, because	40	7	10	29
● more privacy	(19)	(1)	(5)	
● arrive late	(9)	(2)	(2)	
● other	(12)	(4)	(3)	
Total	146	17	32	100

to answer and only 5 per cent said they don't know or that it makes no difference. Still, the number of those who want the door leading to the outside is considerably larger than that of those who already have this arrangement (40 compared to 17). Surprisingly enough eight of the 17 respondents, who have their door opening up to the outside, said they prefer to have it opening up towards the corridor.

By far the most frequent reason given for having one's door leading to the corridor is that it is considered more secure (75 per cent of the replies, for further discussion, see chapter 13). Only a few respondents have either said that such an arrangement provides for more contact or have given other reasons for having the door leading to the corridor. The possibility of coming home late in the night without disturbing others in the house has been mentioned by 13 respondents, who would like to have their door opening towards the outside. This reply may be regarded as a specification of a desire for more privacy, which is the most frequent reply for those who want their door opening towards the outside.

It may be concluded that the respondents consider the placing of the door in the S houses important to their privacy and to their security, but also that these two demands are in contradiction to each other. I think that a reply to question 65 reflects which of the two aspects is most important to the respondent. The distribution of the replies shows that most respondents consider security to be more important than privacy. Thus, although assumption 4¹⁰ is supported, it is not clear how this should be interpreted in relation to assumption 4.

*

One may ask if the attitudes to the placing of doors are related to certain categories of people. Leslie has already been quoted saying that the uneducated, the Muslims and the coastal people are more positive to the communal life of the urban Swahili type house. He has also said that the causes of friction in this house type "boil down the lack of privacy" and that this lack of privacy is "felt the more when he (the occupant) is better paid, better educated, more ambitious of improving his



Figure 12:III. An NHC urban Swahili type house with doors opening up to the side of the house.

Table 12:9b. Type of household and replies about placing of door (only S houses).

Towards the outside (%)
n

Single persons	Several adults	Couples	Families (both types)
28	45	10	24
53	40	20	76

lot" (Leslie 1963:87). If the replies to question 65 reflect the lack of privacy in the S house, the replies to this question could also be used for discussing the statements made by Leslie. I restrict the discussion only to differences between the types of household.

Although the number of observation is very limited, table 12:9b seems to show that couples without children consider it less important while adults of the same sex consider it more important than the other types of household to have the door leading to the outside. Thus adults of the same sex living together seem to evaluate privacy more than single people living alone. The question of privacy versus security for various categories of people is discussed more in chapter 13.

*

Does the existence of many/good neighbourly contacts influence one's attitude about the door in the urban Swahili type house? A special assumption can be formulated about this:

Assumption 4¹¹: People who have few/bad contacts in the S houses are more likely to prefer to have their door opening towards the side of the house.

As a measure of contacts the replies to question 43 about familiar relations in the house can be used.

Table 12:10. Frequency of familiar relations in the house and replies about placing of door (only S houses).

Familiar relations:	None	One or more
Door towards the side (%)	41	27
n	37	143

Although the number of observations is limited, table 12:10 seems to show that, of those who said they have no familiar relations in the house, a larger proportion have replied that they want the door towards the side than of those who said they have familiar relations in the house. It seems as if assumption 4¹¹ is supported.

12.14 Homogeneity and neighbourly contact

In section 12.6 the actual situation of homogeneity in social composition was discussed for the S and Q houses. It was found that there was more heterogeneity in type of household, religion and income than could be expected, but no attempt was made to study the relationship between homogeneity situation and neighbourly contacts. This will be done here.

As a postulate of general application Festinger et al stated in their study from 1950:

"The heterogeneity of the community, the kinds of people that live in it, and the par-

ticular likes and dislikes of various persons will undoubtedly affect what groups form and whether or not groups do form." (p 160)

Festinger et al mention attitudes such as likes and dislikes, but the postulate is also supposed to be valid for more important social characteristics. In a study made in the Ghanaian new town of Tema (Peil 1968) heterogeneity according to ethnic origin, religion and occupation in tenement houses was investigated. It was found that the proportion who said that they got along well with their cotenants decreased with the heterogeneity of the residents of the house. In accordance with these observations the following sub-assumption can be formulated:

Assumption 4¹²: There are more/better contacts between co-occupants in homogeneous than in heterogeneous houses.

Obviously Leslie made the same assumption in his study of Dar es Salaam in 1956 (although it is not stated explicitly), but it does not seem to have been supported:

"Even in the type of house where almost all are of the same tribe, and many are interrelated, the community of feeling was less than one would have expected." (Leslie 1963:82)

Since Leslie does not present his methods of investigation or the statistical results of his survey, it is difficult to see whether his conclusion is justified, but the fact that he seems to reject the assumption makes it even more important to have it discussed for my sample.

The operational definitions presented in table 12:3 are used as measures of homogeneity. The replies to question 35 (about having meals together) and 43 (about familiar relations in the house) are used as measures of contacts between co-occupants. No distinction is made between S and Q houses.

Table 12:11. Homogeneity and replies to questions 35 and 43.

Homogeneity; according to	Strong	Weak	None
<u>Type of household</u>			
Having meals (%)	56	41	47
n	72	100	203
Familiar relations (%)	84	74	82
n	75	106	208
<u>Religion</u>			
Having meals (%)	45	39	51
n	58	96	221
Familiar relations (%)	91	74	81
n	64	97	228
<u>Income</u>			
Having meals (%)	41	49	48
n	106	114	155
Familiar relations (%)	80	81	82
n	108	124	157

According to table 12:11 there is no striking correlation, neither for any of the three homogeneity measures, nor for any of the two contact measures. For respondents in houses with weak homogeneity in type of household and religion the contact frequency seems to be lower (marked figures) than for those in houses with strong or no homogeneity. The difference between respondents in strongly homogeneous and in heterogeneous houses seems to be insignificant. For income there is almost no difference in contacts at all. Concerning homogeneity according to type of household, the frequency of having meals with co-occupants is slightly higher in the homogeneous than in the heterogeneous houses, but according to religion it is the other way round. As to homogeneity according to income the contact frequency is lowest in the homogeneous houses, thus running contrary to assumption 4¹²

It seems as if homogeneity situations in which one household deviates from the others concerning type of household or religion do not stimulate contacts. Between strongly homogeneous and heterogeneous houses there are no significant differences found in contact frequency. Therefore, I think that assumption 4¹² should be rejected.

12.15 Conclusions

For the analysis of neighbourly contacts, 12 sub-assumptions have been formulated and discussed in relation to the empirical material. Some of these are not directly related to the spatial organisation of dwellings but are still considered as sub-assumptions to assumption 4 because they provide a basis for discussing those assumptions which are directly related to the spatial organisation of the three house types.

Concerning the introductory question "What is a good neighbour?" no specific assumption was formulated. The purpose was just to find out if people have thought of neighbourly relations as a problem so that they would be able to express well-founded replies to particular aspects of neighbourly relations as well. The replies to question 4 and 5 reveal that many respondents have the situation in the urban Swahili type house in mind when answering even though they no longer live in this house type. The two questions are too general to provide really useful information, but it is indicated that people are aware of the importance of good neighbourly relations, especially in the urban Swahili type house.

However, people do not seem to regard neighbourly relations in the urban Swahili type house as such an important problem that they bother to inform themselves about their prospective co-occupants before moving into such a house. Although almost 2/3 of the respondents in the S houses said that they knew someone in the house or the street before moving, so that they could easily inform themselves, less than 1/4 of them said they had informed themselves about any aspect of the social composition of the house.

Assumption 4¹ is rejected, but this does not necessarily mean that neighbourly relations are not considered a problem: it might just imply that advance information is not a good method to avoid conflicts with co-occupants. Another explanation might be that a social norm prevent people from admitting that they had found out things about their prospective co-occupants.

One can not say that accommodation is so scarce in Dar es Salaam that people have no other choice than to accept living in a house with bad neighbourly relations. The fact that "social factors" is the most frequent reason for leaving one's house, while this type of reason is rare for desire to move, indicates that neighbourly relations may deteriorate (suddenly) and make people move. Thus, it seems as if Leslie (1963) is correct when concluding that

"A good deal of shifting from house to house goes on, usually for personal reasons. Sometimes it is the landlord they don't get on with (perhaps he is too insistent on getting the rent on time), sometimes there is a quarrel with other tenants, and often that quarrel is to do with women." (p 75)

This observation is in line with assumption 4⁹, saying that people with good neighbourly relations are more positive to their housing situation in general, an assumption which is supported in my empirical material for three different measures of neighbourly contacts.

Concerning conflicts between unmarried and married people in the same house the empirical material shows that "tension and suspicion" exist to a large extent, but no clear difference between the S and Q houses is found and thus the assumption (4⁸) that this problem is related to the spatial organisation of house types, should be rejected. The related assumption (4²) that it is more difficult for unmarried than for married people to obtain a room in an S house, is supported, but it is doubtful whether it is because house owners want to avoid "tension and suspicion" or because they want stable rentpayers. The fact that owners of S houses make conditions for accepting new tenants which are clearly related to the collective organisation of the house, shows that they are not indifferent to neighbourly relations in the house. Obviously the house owners do not try to achieve good neighbourly relations by accepting only married or only unmarried people. The discussion of assumption 4⁴ shows that both the Q and the S houses seem to be more heterogeneous than could be expected even from a random distribution over types of household etc. This conclusion is also indirectly supported by the fact that assumption 4¹² is rejected: neighbourly relations are no better in homogeneous houses. Therefore, I am inclined to agree with the majority of the respondents who have answered question 52 about mixing single and married people by saying either that it does not matter or that "it depends" (on the individual) if they should be mixed or not (section 12.11).

Assumption 4⁵ about quarrels and assumption 4⁶ about contact patterns in the S and Q

houses I consider useless for the discussion of assumption 4. Probably more precise and fruitful questions could have been put for the discussion of these assumptions. The absence of quarrels does not necessarily mean that harmony exists. On the contrary, it can be argued that the existence of quarrels means that co-occupants have found a method of solving contradictions instead of keeping one's complaints down until they explode (and result in the change of residence for one or several tenants).

I consider assumption 4⁷ about co-operation between co-occupants to be the most crucial for testing assumption 4. Originally all the different measures of co-operation were analysed separately and in detail, but as it proved impossible to keep "other things equal" (mainly the social composition of the respective house types), all the questions were summarized in one table (12.5). This table shows that people do co-operate in both S and Q houses, above all in certain respects, but I find it impossible to draw any definite conclusion about the differences found between the two house types.

It could be argued that samples should be drawn from the two house types so that all other things are equal, but I think it is impossible to keep things such as distribution of types of household, occupation, duration of residence, number of households per house etc equal, so that a quasi-experiment with a statistical method can be made. Therefore,

I believe that the only feasible way for better understanding the influence of spatial organisation upon co-operation between co-occupants is for the researcher to conduct participant observation in the two house types so as to grasp the whole complex of neighbourly relations with their varying degrees of subtlety.

Perhaps the most fruitful question related to assumption 4 is the one about the placing of the door to one's room in the S houses. It is directly related to the spatial organisation of the house at the same time as it is a measure of the importance of privacy/neighbourly contacts (assumption 4¹⁰ supported). People who have few/bad contacts in the house more often prefer to have their door to the side of the house (assumption 4¹¹). However, this arrangement is more difficult to make in the NHC than in the private S houses.

In section 12.13 it was shown that half of those who already have their door to the side of the house, want it leading to the corridor, and my conclusion is that the placing of the door is mainly an indication of whether one considers privacy to be more important than security or the other way round. If it is considered desirable that occupants of the S houses should be given a freedom of choice on this matter, rooms should be provided with technical facilities for making new door openings (for instance, by arranging the window opening so that it can easily be transformed into a door opening).

13 Security in the house

Neighbourly co-operation can be said to provide a sense of security in one's housing situation. The replies to certain interview questions discussed in the previous chapter indicated that people are aware of this factor. Particularly the discussion about the placing of the door in the S houses made it clear that security aspects are directly linked to the spatial organisation of the house. In this chapter I want to discuss the problem of security in more detail and analyse the replies to the special questions on this problem dealt with in the interview.

13.1 Definition of the problem

In one sense it can be maintained that security is the most basic objective of housing. This has been expressed by Lee Rainwater in the following way:

"Housing as an element of material culture has as its prime purpose the provision of shelter, which is protection from potentially damaging or unpleasant trauma or other stimuli. The most primitive level of evaluation of housing, therefore, has to do with the question of how adequately it shelters the individuals who abide in it from threats in their environment." (Rainwater 1966:23).

If security is interpreted in such a wide sense, almost anything related to housing is also related to security. Thus, in his list of sources of danger in the lower class home (USA), Rainwater includes factors such as rats and other vermin, cost of dwelling, fighting and beating, and verbal hostility.

Examples from other writers also demonstrate the variations in the security concept. The British Building Research Station, in a special issue of *Overseas Building Notes* (No 135) devoted to the questions of security, deals exclusively with technical details of construction to prevent "illegal entry, which forms a high proportion of all indictable offences" (Security 1970). A similar view seems to lie behind a proposal to build multi-storey houses with references to the allegation that theft is easier in single-storey houses (Housing 1959:39).

Others devote their interest to the question of security of tenure and house ownership. In relation to unauthorized pirate towns this problem has been thoroughly analysed by John C. Turner. In an article called "Environmental Security and Housing Input" (Turner 1966b) his main thesis is that "the input of resources for housing on the part of those who need and must pay for them, is a function of the secu-

rity that the residential environment provides" (p 13). With reference to peri-urban areas of East African cities a similar view has been voiced by Peter C.W. Gutkind:

"... there is, in most cases, little security of tenure for room tenants or house owners vis-à-vis African land and property owners. Land and property speculation, with its resulting insecurity for all, is rife in the fringe areas. Rents are high and, with services minimal, poorer residents have no incentive to improve their housing." (Gutkind 1960:131)

These factors are not at all irrelevant to the housing situation in Dar es Salaam, but in relation to the main assumptions of my study the social aspects of security are considered more important. Concretely I want to discuss statements such as the following:

"... the total absence of privacy produces bonds between people who would otherwise have little contact and interest. Fear of thieves, for example, makes congestion desirable as an instrument of security." (Gutkind 1960: 130).

I doubt that it is the absence of privacy that forms bonds between people and the congestion as such is an instrument of security, but I think that the formation of communities in cities is important for security. My assumption is more in line with that of Golger, who says that common interests (of squatters) force people together (p 24), and with that of Edvardsen & Hegdal, who state that communal living provides a sort of guarantee for social security (p 40). Even if people who live close to each other have nothing in common apart from this, residential units might be formed as an elementary sort of measure in an insecure urban environment. Such a situation is said to exist in the Léopoldville (Kinshasa) unplanned housing areas, in which the *parcelle* (plot) is an equivalent of the urban Swahili type house:

"Relations between residents of a *parcelle* are tenuous and based on no group interest other than that of preserving harmony in day-to-day relations. Each household within a *parcelle* is a separate unit with ties outside the *parcelle*; households differ from one another in tribal affiliations, in economic and social status, and in their composition. In some *parcelles* the only quality households have in common is their link with the landlord. Nevertheless, the *parcelle* forms an important unit in the social structure of the town, serving as a means of adaptation for new immigrants and a source of aid in difficult circumstances." (La Fontaine 1970: 132).

If people living in the same neighbourhood have common bonds which promote security, this ought to be the case to an even larger extent for people living in the same house. Such an assumption has been indicated by Rainwater:

"In buildings where there are several families whose doors open onto a common hallway there is a greater sense of the availability of help should trouble come than there is in buildings where only two or three apartments open onto a small hallway in a stairwell." (p 30)

Housing studies have shown that in modern suburbs in industrialised countries there is often no sense of community at all, but for Dar es Salaam I want to discuss Rainwater's assumption rephrased as follows:

Assumption 5: There is a correlation between security in the house and the spatial organisation of house types.

In accordance with main assumptions A, B and C the focus should be on the influence of collective living upon the sense of security in the house, but I consider that safety against burglaries and magic protection of the house also belongs to this chapter.

13.2 The sense of security in the house

Tenants who happen to live in the same house can not be expected to be good friends just because of this, but the fact that they live together can be said to imply a common interest even if they are not friends. One could expect this common interest to be particularly strong in the urban Swahili type house because of the interdependence between co-occupants, imposed by the collective spatial organisation. Thus, despite heterogeneity in social composition, the sense of security is supposedly greater in this house type (cf Leaning 1971:7).

In reply to the question about desired placement of door openings in the S houses many respondents mentioned security as a reason for their desires. This measure of sense of security is restricted to the S houses. One might expect the fact that people in the Q and F houses have individual entrances to their rooms/houses to provide for less security. Furthermore, in houses with easily guarded doors (as in the S houses) it would not be necessary to lock the door to one's room, provided that there is someone at home and that one trusts one's co-occupants. As measures

of the sense of security in the house the following two questions were put in the interview:

45. Now I want to ask about safety of the house. When do you lock your door?
49. (If S or Q house) Do you trust your neighbours in your house?

I wanted to phrase question 45 so as to focus the attention upon the security aspect of locking. I assumed that those who lock their door when they go to the courtyard, to the verandah or to a neighbour (i.e. "often") feel less secure in the house than those who lock when they go to the shop, when they go to town or those who never lock (i.e. "seldom"). The following was thought to be a sub-assumption of assumption 5:

Assumption 5¹: People in the S houses lock the door to their room(s) more seldom than people in the Q houses.

It was intended that, of the replies related to security, the "lowest" alternative should be noted. Nevertheless, for most respondents more than one reply was indicated. The two first given replies were distributed according to the list of specified alternatives as in table 13:1.

Table 13:1 shows that 21 per cent (married men) of the respondents said that their wives lock. This reply and replies such as "when I go to bed" are irrelevant to the "security scale", but 2/3 of those who gave such replies have also indicated an alternative which is considered relevant. 61 per cent of those who have given replies within the "security scale" in their 1st reply, said they "often" lock, while 39 per cent said they "seldom" lock. However, locking "seldom" is almost the same (37-38 per cent) in the Q and private S houses and only slightly more frequent (44 per cent) in the NHC S houses, and thus assumption 5¹ is not supported. This is not necessarily an indication that assumption 5 should be rejected; it might just imply that the replies to question 45 are not measures of the sense of security.

In order to find out if the replies about locking are in fact indications of sense of security in the house, the replies to question 45 could be correlated with the other measure of sense of security: the replies to question 49 about trusting one's co-occupants. The cross-tabulation of the two variables shows, however, that no such correlation exists, and thus I feel inclined to conclude that assumption 5¹ is not a sub-assumption to assumption 5.

Table 13:1. Replies to question 45 about locking one's door (per cent).

		1st reply	2nd reply
Locking "often"	My wife locks	21	0
	When I go to courtyard or verandah	9	0
Locking "seldom"	When I go to neighbours	34	7
	When I go to shop	8	23
	When I go to town	16	17
	Never	3	0
	No lock	1	0
	Other/when I go to bed	8	53
Total		100	100
n		442	315

*

I did not expect a high figure of negative replies to question 49 as the interviews might be overheard by co-occupants. To the extent that people actually gave negative replies, however, there was no reason to think that the replies did not indicate what they were expected to do. The following sub-assumption can be formulated:

Assumption 5²: People in the S houses trust their co-occupants more often than people in the Q houses.

This is not supposed to imply that residents in Q houses are more unreliable than others, but rather that people in S houses are more dependent on each other and thus have to rely more on each other. It turned out that 29 per cent dared admit that they do not trust their co-occupants. The distribution of replies over house types is seen in table 13:2.

Table 13:2. House type and replies about trust in one's co-occupants.

	NHC S	Private S	Q
Trust (per cent)	87	83	36
n	201	70	120

Only 36 per cent of the respondents in the Q houses said they trust their co-occupants, while the equivalent proportion in the S houses is more than twice as large (83-87 per cent). The risk of being overheard by others in the house during the interview might be greater in the S houses and thus explain the difference, but I doubt that there is such a large difference in sound-proofness between the house types. If on the other hand the situation is such that one "risks more" in the S houses by saying that one doesn't trust one's neighbour, this is in fact a support for main assumption A.

Another possible explanation is that a question of trusting one's co-occupants is differently conceived in the two house types: in the S houses people might think of several kinds of co-operation, while people in the Q houses might think that they have no reason to co-operate and thus no reason for trust. In such a case they would answer "don't know", but as they have in fact answered "no", I am inclined to conclude that people trust each other more in the S houses and that assumption 5² is supported.

If the replies to question 45 about locking is cross-tabulated with the replies given to question 49 about trust, no correlation is found between the two variables. I take this as a confirmation that the replies about locking do not constitute a measure of sense of security in the house.

Table 13:3. Familiar relations (question 43) and sense of security (questions 45 and 49). Familiar relations: Locking "seldom" (per cent) Trust (per cent)

None	One	Several
24	42	42
55	192	59
51	74	79
74	263	47

13.3 Security and neighbourly contact

In chapter 12 it was demonstrated that the frequency of co-operation among co-occupants varies widely from house to house. An assumption close at hand is that people who are on friendly terms with their neighbours feel more secure in their house.

Assumption 5³: There is a correlation between sense of security in the house and neighbourly contact.

The replies to question 65 about the placing of the door to one's room can be seen as expressions of the sense of security in the house since a desire to have the door face the corridor is almost exclusively motivated by security considerations (section 12.13). Table 12:10 indicates that there is a correlation between this measure of security and familiar relations in the house, which could be interpreted as a support for assumption 5³. The replies to question 65 are also correlated with the replies to question 35 about eating with co-occupants.

Although doubts were raised whether or not the replies to questions 45 about locking indicate sense of security, it seems obvious from table 13:3 that this reply is correlated with familiar relations in the house. Of those who said they have no familiar relations in the (S or Q) house only 24 per cent said they "seldom" locked, while the figure for those who have one or several familiar relations in the house is considerably larger (42 per cent). I interpret this to imply that the replies about locking do in fact reflect something of the social situation in the house, although not primarily whether or not one trusts one's co-occupants.

Table 13:3 also shows that the replies about trust are correlated with familiar relations in the house. I thus conclude that assumption 5³ is supported.

13.4 Safety against burglaries

Another kind of security is that against outside intruders. The fear of burglars manifests itself clearly in all house types. Windows often have bars as well as netting and steady shutters for protection. Doors are often equipped with extra padlocks. To a large extent both doors and windows seem to be closed even when the occupant is in close proximity to his room. People try to prevent the hooking out of things through the window in the night by closing the window shutters, which decreases a desired free air flow through the room. This seems to reflect a situation of insecurity.

Whether these physical arrangements for protection are founded on actual experience of

burglars could be investigated by studying the frequency and circumstances of occurring burglaries. One may feel secure with one's co-occupants and still remain insecure in the house for fear of burglaries. Although I assume there is a correlation between the two types of security I want to use the word "sa-fety" for the latter type of security in order to indicate the difference. The sub-assump-tion I want to discuss in this section is the following:

Assumption 5⁴: People in S houses are better protected against burglaries than people in other house types.

For the discussion of this assumption the following question was asked in the interview:

47. Have you ever had any theft? (If yes) How many times? Last time what was stolen? How was it done?

The replies to the first part of the question, distributed over house types are shown in table 13:4.

Table 13:4. House type and burglaries.

	NHC	Pri- vate S	Q	F
Theft (per cent)	20	19	30	63
n	141	53	77	24

Table 13:4 shows that 74 per cent of the respondents answered that they never expe-rienced an theft. The proportion of respon-dents who experienced one or more thefts varies from about 20 per cent in the S houses to 63 per cent in the NHC one-family units. The difference between the S and the Q houses is also considerable.

Assumption 5⁴ is supported in the sense that burglaries seem to be less frequent in the S houses. But an assessment remains of the influence of the spatial organisation. Among the various factors influencing the frequency of theft I think that the following are most re-lavant:

1. Duration of residence in the house.
2. The frequency of objects worth stealing.
3. The construction of the house.
4. The presence of people guarding the house.
5. Familiar relations and trust among co-occupants.
6. A spatial organisation which facilitates guarding the house.

Below I try to analyse these factors as re-gards differences between the house types and how they relate to the frequency of theft.

1. It is obvious that the opportunities for burglaries increase by time. Reasonably,

those households which have been living in their house a long time could be expected to give more indications of theft. The medium duration of residence in the respective house types varies greatly; from a little more than three years in the S and F houses to almost seven years in the Q houses.

2. Except for the taking of interior photographs in a limited number of houses there was no registration of "objects worth stealing". It can be assumed, however, that the existence of such objects is directly related to the level of income of the household. In comparison to the S houses the medium salary of heads of house-hold is slightly higher in the Q houses and con-siderably higher in the F houses.

Table 13:5 shows that occurrence of theft varies slightly with duration of residence, but not at all proportionately. If that would have been the case the figure should have been at least five times as large in the third column as in the first one.

It is possible that the respondents have for-gotten, or have not mentioned, cases of theft lying far back in time or that respondents have mentioned thefts also in previous houses, but it is also possible that the difference in occur-rence of theft between the S and Q houses is at least partly explained by the difference in dura-tion of residence. Duration of residence does not, however, explain the difference in theft between the S and F houses as the average pe-riod of time is roughly the same in these house types.

Table 13:5 also shows that there are great differences in occurrence of theft between va-rious income groups (more than four times as frequent in the high as in the low income groups). Because the difference between in-come groups is larger than that between house types it seems as if salary of head of household (reflecting the frequency of objects worth steal-ing) influences the occurrence of theft.

3. The windows in all four house types usually have bars and shutters. The quality of the con-struction is slightly less secure in the Q and in the private S houses than in the two NHC types. It has been maintained (by Grohs 1969:18) that traditionally built houses do not offer the same security against burglaries as the modern houses. For this factor it is difficult to con-struct a measure which can be cross-tabulated with the figures for theft.

4. In the chapter about use of dwelling space it was shown that people stay at home more often in the S than in the Q houses. The F houses can be expected to be left empty much more often.

5. According to the discussion in section 12.10 there seems to be more co-operation between co-occupants in the S than in the Q houses, and table 13:2 shows that there is a great dif-

Table 13:5. Burglaries as a consequence of du-ration of residence and salary of head of house-hold (all house types).	Duration of residence (years):		
	less than 1	1 to 5	5 or more
Theft (per cent)	22	25	28
n	46	135	80
Salary of hoh (shs/month):	less than 250 250-600 600 or more		
	Theft (per cent)		
	11	27	48
n	93	131	60

Table 13:6. The occurrence of theft and replies to questions 43 and 49 (only S and Q houses).

Familiar relations in the house:		None	One	Several
Theft (per cent)		28	20	40
n		61	176	55
Trust one's co-occupants:		No	Yes	
Theft (per cent)		30	20	
n		73	195	

ference in "trust" between the two house types. The correlation with occurrence of theft can be seen in table 13:5.

Although familiar relations in the house appeared (in table 13:3) to be correlated with the replies about trust, table 13:6 indicates that the latter factor is correlated with the occurrence of theft, while the former factor is not. The highest frequency of theft (40 per cent) is found among those who have several familiar relations in the house.

As to the correlation between replies about trust and occurrence of theft, two different explanations are possible: either co-occupants are so hostile or indifferent to each other that they do not hesitate to take things from one another, or else, the occurrence of theft in the house (by outsiders) causes a deterioration of neighbourly relations in general.

6. The corridor in the S houses and the equivalent passage in the F houses permit people at home to watch the points of intrusion in these house types. In the Q houses, with two entrances to each unit, it is more difficult to guard all the points of possible intrusion. The observation study shows that almost all outdoor activities in the Q houses take place at one side of the house (towards the courtyard), and thus that the other side is not nearly as well supervised. As the investigated housing areas are almost completely dark after sunset (no street lights) burglars are able to operate very close to the house without being discovered (all house types). However, noise-producing intrusions are probably prevented in houses where people are around.

*

Of the six factors listed above, salary of the head of household is most clearly related to the frequency of theft in the house. This is a good reason to conclude both that salary indicates "objects worth stealing" and that objects worth stealing constitute an important determinant for the occurrence of theft in the house. Obviously burglars find areas of one-family houses such as Kinondoni more rewarding than areas dominated by the urban Swahili or the Quarter type house. The difference in frequency of theft between the S and Q houses could also be explained by the difference in average salary of heads of household.

As to duration of residence in the house (factor 1) and familiar relations between co-occupants (part of factor 5) it is doubtful whether these factors influence the frequency of theft. The replies about trust in one's co-occupants seem to be related to the frequency of theft, but it is uncertain what is cause and what is effect in this relationship.

Thus, although assumption 5⁴ is supported, there is little evidence that it is the spatial organisation which accounts for the differences

in frequency of theft. Of course, one could argue that one-family houses are always more difficult to guard against outside intruders at the same time as they are usually inhabited by wealthier people, and, thus, that spatial organisation (lack of collectivity) has an indirect influence upon the frequency of theft, but in such a case differences in frequency of theft ought to be stronger between the house types than between salary of head of household.

13.5 Way of intrusion and objects stolen

It would be wrong to conclude that spatial organisation of house types has no effect at all upon the safety situation of the house. Such an influence might exist although it is not dominant. One way to assess this influence is to study the replies to the remaining part of question 47 about way of intrusion and objects stolen at the last case of burglary.

Assumption 55: There is a correlation between the spatial organisation of houses on the one hand and way of intrusion and objects stolen on the other hand.

Circumstances around the last case of theft were asked for to the 76 respondents who said they had had a burglary in the house. Since the two additional questions were open, the replies varied considerably, as can be seen from the following examples:

- At 9 p.m., when I left the door and the window open, my shirt was stolen from the room.
- I forgot to lock the window shutters in the night. Some clothes were hooked out.
- When we went to fetch water at about 5 p.m. someone entered and took a box of clothes and money.
- The stove was taken from the courtyard during night.
- The door was broken and radio, clothes and 160 shillings were stolen.
- Bedsheets and a shirt were taken from the drying line in the evening.

Most replies contain information about way of intrusion and objects stolen. The replies were classified as in table 13:7.

Table 13:7 shows that by far the most frequently mentioned kind of objects stolen in all house types is clothes, usually taken from the backyard or fished out through a window by a stick. More valuable things such as radios, watches or money have usually been stolen by passing through a door left open. In a few cases the padlock has been broken, almost exclusively in the Q and F houses. In the latter house types the most common way of intrusion is to climb the wall of the backyard. There are no differences between the

Table 13:7. House type, objects stolen and way of intrusion.

Objects stolen	S	Q	F
Clothes	29	17	10
Radio, watch, household equipment etc	11	6	5
Cash money	7	4	0
Not stated, other	2	1	2
Total	49	28	17
<u>Way of intrusion</u>			
Through window (hook)	13	6	2
Through door	13	7	1
Backyard, kitchen etc	10	5	8
Padlock broken	1	4	4
Not stated, other	3	1	0
Total	40	23	15

NHC and the private S houses concerning objects stolen and way of intrusion.

If the kind of objects stolen does not vary from one house type to another, this seems to contradict the previous conclusion that the existence of objects worth stealing influences the frequency of theft (knowing that wealth is unevenly distributed over house types). Since the classification of objects does not take their value into consideration there might not be any real contradiction, but to the extent that such is the case the contradiction can perhaps be explained by the fact that the most frequent way of intrusion in the F houses is jumping over the backyard walls behind which (less valuable) clothes and household equipment are most frequently found, while more valuable objects are usually behind locked doors.

As regards way of intrusion, thefts from the backyard and the kitchen are more frequent in the F houses, while intrusions by breaking padlocks are less frequent in the S houses; otherwise no important differences between the house types are revealed. Thus there seems only to be little support for assumption 5⁵.

13.6 Magic protection of the house

People who live in a hostile and insecure environment may try to understand what may be a desperate situation by adopting explanations, which are not rational from a scientific point of view. Such an assumption has been made by La Fontaine, who states:

"Town life is thus highly competitive and the results of failure are readily apparent. Conditions in the life of the urban dweller are subject to changes brought about by economic and political forces that he does not comprehend, but which nevertheless affect him deeply. In his struggle to succeed, the individual is more isolated and dependent on himself than he would be in a traditional setting. Thus, it is not surprising that beliefs in witchcraft, sorcery, and magic continue to flourish in towns. Léopoldville is no exception." (La Fontaine 1970:182)

I am convinced that magic beliefs are caused mainly by ignorance and that their integration into society fundamentally depends upon economic development.

In the participant observation study I did not learn much about traditional beliefs, possibly because people did not think that I would "understand", but probably also because I did not ask much for it. I did not think that magic beliefs had any relation to the kind of problems included in this study. It was Rev. L.W. Swantz of the Dar es Salaam Urban/Industrial Project who put me on to the subject and who asked me to include some questions about it in the interview.

To several of the open attitude questions discussed in chapter 10 we received replies referring to witchcraft. At the recommendation of L.W. Swantz a fixed alternative about this was included in the list of reasons for leaving previous house and that for desire to leave present house. The fact that a number of respondents actually gave replies of this kind (in face of the educated Christian interviewers) indicates that it was correct to include alternatives about witchcraft.

L.W. Swantz - who has engaged himself in studies of traditional beliefs and the activities of "medicine men" ("mganga" in Swahili) in Dar es Salaam - states that "animistic beliefs and resulting practices are often overlooked by those who try to understand urban Africa" (Swantz 1970:161). In a paper called "Persistence and Adaptation of Some Traditional Institutions in an African City" (undated) Swantz presents some such magic institutions, especially those of the Zaramo people.

The Swahili word for witchcraft "uchawi", is explained by Swantz to mean "sorcery", i.e. black magic used against someone by evil intent (p 15). Other terms relevant to the study of magic protection of the house are "dawa" (magic, medicine) and "hirizi" (charm, amulets), which are used for protection of oneself or one's house. Swantz states, for instance, that shop-owners and beer sellers have hirizi amulets in order to attract customers and that medicine men in the rural society could provide dawa for the fields to protect the crops from being stolen (Swantz's undated paper, p 18). The interesting thing for my study is that dawa and hirizi are also used in order to increase security in the house.

A special protection is believed to be given by a "jini" (house-spirit), which is said to be kept by house owners to protect the house.

"Most Zaramo have a strong belief and fear of jini. Although no one admitted having actually seen a jini, it is believed that they exist and that house-holders keep them to ward off thieves." (Swantz 1970: 163)

Swantz indicates that magic beliefs are relating to insecurity in urban areas in general, but also to bad neighbourly relations. To Swantz's question "Why were you bewitched...?" people are reported to have given replies such as:

- The woman neighbour was jealous.
- The woman in the next room was envious of my food and clothes.

- They were jealous of my job or my business.
- It was my husbands lover.

The observation made by Swantz that reference to sorcery ("uchawi") is connected with lack of security in neighbourly relations coincides well with my own observation that persons who said they moved from their last house because of witchcraft usually also referred to bad relations to the house owner or to other people in the house (section 9.6).

For the study of magic protection of the house the following question was put in the interview:

48. Do you think a jini (house spirit) or hirizi (charm) is good for protection?

Since I assumed that the belief in magic would not be easily admitted (to Christian university students), question 48 was phrased in such a way that an impression was given that these phenomena were legitimate to believe in, although it could be disputed that they were good for protecting the house. Those who would answer "yes" or "don't know" could be expected to believe in magic, whereas for those who would say "no", it would be uncertain whether they reject the whole idea of magic or just that it is good for protection. The interviewers did not find anything peculiar in including a question on magic, but they could give no indication as to the reliability of the replies.

Only 6 per cent of all respondents gave positive replies to question 48. A fair number of these answered "hirizi but not jini". 22 per cent answered "don't know". The proportion of the respondents who have answered "yes" or "don't know" is 39 per cent for Muslims and 20 per cent for Christians. Swantz states that "Christianity seems to be the main force breaking down the fear of belief in the power of spirits" (Swantz 1970:161), but since the level of education is higher among Christians than among Muslims this factor probably explains the difference in replies to question 48, and not religion as such.

I consider it uninteresting to try to assess the extent to which people believe in magic: the interesting problem is whether replies about these things reflect difficulties in social relations and whether or not such difficulties relate to housing. Resources have not allowed for an elaborate analysis, therefore my only conclusion to this section is that I think that magic beliefs are strongly related to security in a wide sense and, thus, that further investigations could also be fruitful for the problems dealt with in this thesis. Contrary to many other students of "traditional" cultures I think that magic beliefs could be rationally explained, especially if subjected to a materialist analysis.

13.7 Conclusions

Housing is fundamental to security in its broadest sense. Therefore the whole thesis can be said to deal with security of housing. The relevance of housing to security becomes especially apparent in chapters 11 and 12, where the phenomena of crowding and neighbourly contact are discussed as aspects of

social security. In this chapter, the problem of security is discussed more explicitly.

Five sub-assumptions were formulated for the discussion of assumption 5. Sub-assumption 5⁴ can be said to consist of six sub-assumptions, although these were not specified as assumptions. No special assumption was formulated for the discussion of magic protection of the house.

The analysis of the various sub-assumptions gives no clear support for assumption 5. As to sense of security in the house (assumptions 5¹ and 5²) I found that the replies about locking one's door do not vary between the S and Q houses, while the replies about trusting one's co-occupants do reveal such a variation. I am somewhat puzzled by the fact that the replies about locking and those about trust are not correlated with each other as both these variables are clearly correlated with familiar relations in the house. If people who have familiar relations in the house lock the door to their room more seldom, this ought to be an indication that they also trust each other more, particularly, as people who have familiar relations in the house, in fact answer more often that they trust their co-occupants. Consulting a teacher in the Swahili language gave no hints about peculiarities in the Swahili concepts used, which could explain the paradox.

Despite this, I consider the support found for assumptions 5² and 5³ to imply that the collective organisation of the urban Swahili type houses promotes a sense of security and, thus, that assumption 5 is supported.

As to the question of safety against burglaries, table 13:4 shows that there are significant differences between the house types in frequency of theft, in fact roughly the kind of differences I expected. My assumption that the degree of collective living accounts for the differences does not, however, seem to gain support. Table 13:6 shows, instead, that the respondents with most familiar relations in the house have the highest frequency of theft.

The most clearcut result of the analysis of those six listed factors considered to be related to the frequency of theft, is that the salary of the head of household constitutes an important attraction for burglars. The fact that the distribution of wealth coincides well with the degree of collectivity in spatial organisation makes it difficult to isolate the latter factor's influence upon frequency of theft.

It seems obvious that the isolated character of the NHC one-family units makes this house type vulnerable to theft, although the better construction somewhat reduces vulnerability. Theft from the backyard is more common than from the main building in this house type. Where the urban Swahili and the Quarter type houses are concerned, a matched sample where salary of head of household does not vary between the house types could probably throw more light upon the influence of spatial organisation on the frequency of theft.

The concentration upon the six listed factors assumed to be determinants of theft in the house might give the impression that burglaries (or seven crime in general) should be prevented by house building and not by any

other means. Such a false impression could perhaps be counter-balanced by reference to the fact that factor 5 - Familiar relations and trust among co-occupants - contains the whole sphere of aspects discussed in chapter 12, and thus, that the conclusions in that chapter (further elaborated in section 17.5) are also relevant to the question of burglaries.

The occurrence of burglaries can be seen as a symptom of general social insecurity created by unemployment, uneven distribution of wealth, cultural alienation etc -factors which also may determine the form of magic beliefs as discussed in section 13.6. There

are no differences in replies to the question about such beliefs between the house types and no assumption was formulated about such a correlation. Magic beliefs as expressions of frustrated neighbourly relations would, however, be an interesting object for further studies.

Disregarding magic protection and safety against burglaries in the house, I think that there is enough evidence in this chapter to conclude that the sense of security in the house is related to the spatial organisation of house types as stated in main assumptions A and B.

14 The problem of sampling and the question of representativity

Is the sample representative of the respective sampling populations? Can the findings in the study be generalized to concern all houses of the same type and for other areas of Dar es Salaam? In order to answer these questions the problems related to the sampling procedure have to be discussed. Such a discussion may also be of importance for evaluating the sampling methods used.

14.1 Sampling population

The planned sampling methods have been described in section 8.1. The house as defined in figure 6:I was decided as sampling unit. The selection of urban Swahili and Quarter type houses was to be restricted to the township of Magomeni, while the selection of NHC one-family units was to be made in one part of Kinondoni only (see marked sampling areas in figure 8:I). The sampling population is defined as all housing units of the three selected types within the two sampling areas.

Other house types in Magomeni (private one-family units, flats etc) constitute 10-15 per cent of the total number of housing units. 80-85 per cent are urban Swahili type houses. An estimate based on the figures for "permanent houses" in the 1967 population census indicates that about 70 per cent of the Magomeni urban Swahili type houses have been built by the National Housing Corporation (NHC). For sampling purposes no distinction has been made between the NHC and the privately built urban Swahili type house.

Only one part of Kinondoni was outlined as a sampling area: the one with only NHC one-family units. Thus, no other house types exist within the Kinondoni sampling area. In the whole of Kinondoni there are, however, other house types such as urban Swahili type houses and privately built one-family units.

14.2 Sampling procedure

Because of the nature of the study the prime interest was not to make the sample representative of any one housing area, but of the respective house types. Therefore a stratified selection of sampling units would have been appropriate. Originally two partially overlapping samples were planned. For the observation study 30 urban Swahili and 10

Quarter type houses were to be selected. For the interview study 50 urban Swahili type houses, 20 Quarter type houses and 40 one-family units were to be selected. This plan was considerably modified during the execution of the field work.

For reasons described in section 8.2 a random sample proper was not attempted at the beginning. The observers selected urban Swahili type houses in which they already knew someone. As it proved easier than expected to carry out the observations, the sample was extended. It was made identical with that for interviews. The consequences of this decision for the statistical processing of the collected material was not fully realized until later.

As the sample for observations was extended, the observers started to select urban Swahili type houses where they had distant or no acquaintances. It turned out that the outlined procedure for selecting houses for observation was unnecessarily precautions. Nevertheless no random sample was attempted for the remaining urban Swahili type houses.

A test observation was made to see if observations could at all be carried out in the Quarter type houses. No difficulties were encountered and I decided to make the sample for this house type as well identical for observations and interviews. The experience from observations in the Swahili type houses showed that a random sample proper could be made. In order to allow for a continuous extension of the sample, I decided to select one housing unit from each square yard of four units, starting from the west. The final sample of Quarter type houses is shown in the centre of figure 8:II.

The NHC one-family units in the Kinondoni sampling area were to be included as a control group in the interview study. I considered it desirable to make the sample representative of the total population of NHC one-family units in Kinondoni south. To facilitate sampling and interviewing I decided to select six groups of five or six houses. The random selection was first made from an aerial photograph, but during a visit in the area I could not trace more than three out of the six selected groups of houses. Therefore three new groups were selected subjectively on the spot. As the sampling area is homogeneously planned, and as the six groups of houses are not concentrated to one part of the area, the sample of NHC

Table 14:1. Sampling population estimated from an aerial photo of July 1967.

Sampling area:
House type:
Number of units

Magomeni
Swahili Quarters
2 300 164

Kinondoni south
NHC one-family
900

Table 14:2. Selected houses.

Type of house:	Urban Swahili	Quarters	NHC one-family	Total
Number of units	39	20	32	91
Per cent of total number of sampling units	1.7	12	3.5	

Table 14:3. Reduction, observation sample.

Type of house:	Urban Swahili	Quarters	Total
Number of households	217	79	296
Estimated total number of persons	560	300	860
Not observed	225	87	312
Per cent reduced	40	29	36
Final number of persons observed	335	213	548

one-family units is nevertheless considered as having been randomly selected.

The actual number of selected houses is 91, distributed according to house type as shown in table 14:2. The 39 selected urban Swahili type houses constitute 1.7 per cent of the total sampling population, while the 20 selected Quarter type houses constitute 12 per cent of all the Quarter type houses in the sampling area.

14.3 Reduction of sample

In the 59 houses selected for observation there were altogether 296 households. Knowing the average number of persons per household and per house (from the interview study) the total number of inhabitants could be estimated as shown in table 14:3.

Many persons in the selected houses were not at home. Some were on safari, others had shift jobs and still others simply did not spend much time at home. These people were not included in the observation study. Furthermore, because the observation forms were designed for a maximum of 15 persons and because the observers might find it difficult to keep a check even on that number of people, they were allowed to leave out, if necessary, a) infants who could be expected to follow the use pattern of their mothers, and b) occupants who could be expected to spend most of their time away from the house.

Table 14:3 shows that the reduction for urban Swahili type houses is 40 per cent and for Quarter type houses 29 per cent. However, as the total number of persons, actually using their houses during the day of observation, was much smaller than the estimated figures for total number of persons, the real reduction is much less.

In the 91 houses selected for interviews there were altogether 328 households. Wives were to be interviewed in all marriage-like relations where the wife was said to stay with the head of household at the time of the interview period. Thus, wives were not selected for interviews in cases where they lived permanently up-country.

A considerable number of wives were registered as temporarily absent. They are included among the 26 wives classified as "hard to find at home". The wives were generally interviewed after the heads of household. Therefore the wives were more often looked for at the end of the interview period. These factors explain the relatively larger non-response for wives (21 per cent as compared to 7 for heads of households).

The frequency of non-response varies strongly according to house type. The NHC one-family units were comparatively more difficult to reach by existing means of transport. And heads of household were less frequently found at home in these houses. The contrary was true for the Quarter type houses.

Table 14:4. Reduction, interview sample.

Type of house:	Urban Swahili		Quarters		NHC one-family		Total	
	Hoh	wife	Hoh	wife	Hoh	wife	Hoh	wife
Number of interview persons	217	109	79	50	32	26	328	185
Non-response:								
hard to find at home	18	26	2	4	5	4	25	34
refusal	-	-	-	-	1	-	1	-
"always drunk"	1	-	-	-	-	-	1	-
in hospital	1	-	-	-	-	-	1	-
too old	1	-	-	-	-	-	1	-
in prison	1	-	-	-	-	-	1	-
only wife interviewed	-	3	-	-	-	-	-	3
incomplete interview	-	-	-	2	1	-	1	2
Total	22	29	2	6	7	4	31	39
Per cent	10	27	2	12	22	15	7	21
Final number of interview persons	195	80	77	44	25	22	297	146

Table 14:5. Number of persons per household (per cent of total number of household)

	1p	2p	3p	4p	5p	6p≤	Total	n
This study, whole sample	27	23	14	12	9	14	99	297
This study, S houses	32	26	16	10	8	7	99	195
Pop. census, Magomeni	33	22	15	11	7	12	100	16 044
Pop. census, Dar es Salaam	30	21	15	12	8	15	101	83 394

Table 14:6. Number of rooms per household (per cent of total number of household).

	1r	2r	3r	4r	Total	n
This study, whole sample	57	29	11	2	99	297
This study, S houses	86	10	3	1	100	195
Pop. census, Magomeni	73	16	6	5	100	15 654
Pop. census, Dar es Salaam	67	17	8	8	100	81 529

Table 14:7. Distribution by religion (%).

	Muslim	Christian	Other	Total	n
This study, whole sample	41	58	-	99	443
This study, S houses	50	50	-	100	275
Pop. census, Dar es Salaam	70	26	4	100	254183

Table 14:8. Distribution of households by marital status (per cent of all members of all households)

	Single	Married	Div/Wid.	Total	n
This study, whole sample	52	45	3	100	893
This study, S houses	53	44	4	100	527
Pop. census, Dar es Salaam	51	44	5	100	269 393

14.4 Bias of the sample

The observers were all young bachelors, comparatively well educated and all except one were Christians. As they selected urban Swahili type houses where they already knew someone, one could expect the sample of this house type to be biased towards a higher proportion of single persons, Christians and people with high social status, assuming that the principle of birds of a feather is applicable. No bias would be expected for the Quarter type houses and for the NHC one-family units.

In order to test these assumptions and to establish the direction and extent of the bias in the sample it has been compared to the figures in the 1967 population census (Tanzania 1970). Only a few variables are available at ward level, i.e. for Magomeni and Kinondoni. Others are available for Dar es Salaam as a whole.

Table 14:5 shows that the distribution of number of persons per household for the sample of S (urban Swahili type) houses coincides well with that for the population census figures for Magomeni. The proportion of two-person households is only slightly larger and the proportion of households of six persons or more is smaller than the population census figures. The distribution of the whole sample is obviously affected by the situation in the Quarter type houses and in the NHC one-family units towards a lower proportion of one-person households, compared to the population census figures for the whole of Dar es Salaam.

Table 14:6 shows that the proportion of households with only one room is higher in the sample of S houses than in the population census figures for Magomeni. The discrepancy might be explained by the fact that those 15-20 per cent of all housing units in Magomeni which are not urban Swahili type houses, mainly contain households with more than one

room. Thus, the sample of S houses might still, in this respect, be representative of all the urban Swahili type houses in Magomeni. Since almost all households in the Quarter type houses live in two-roomed units, and as almost all households in the NHC one-family units have three or four rooms, it is only logical that the distribution over number of rooms in the whole sample deviates considerably from that for S houses only.

There are also ethnic origin figures available from the Magomeni population census. According to the presented figures, 1 per cent of the heads of household were classified as non-Africans. This proportion can be compared to that for the whole sample, in which only three heads of household were classified as non-Africans (1 per cent). No comparison has been made concerning tribe, one reason being the difficulty in classifying the replies correctly.

As the population census figures for religion are not available for Magomeni, the assumption that the sample is biased towards more Christians cannot be tested properly. Table 14:7 shows that the proportion of Christians in the S houses is smaller than in the whole sample, but considerably larger than the population census figure for Dar es Salaam as a whole. The assumption can only be rejected if it is assumed that the proportion of Christians in Magomeni deviates considerably from that in Dar es Salaam as a whole.

As the population census figures are not available for heads of household only, the assumption can not be tested for this category. Table 14:8 shows that the distribution of all members of the households in the respective samples by marital status is almost the same in the three samples. Therefore, the assumption that the sample of S houses is biased towards more single persons is not supported.

14.5 Conclusions about representativity

For the urban Swahili type house there was no random sample made. A bias could be expected. The distribution of number of persons per household in the sample of S houses coincides well with the population census figures for the Magomeni area, which to 80-85 per cent is dominated by urban Swahili type houses. The distribution is also the same for ethnic origin. The assumption that there would be more single persons in the selected S houses is not supported. However, the sample of S houses seems to be biased towards more Christians. No comparable figures are available for social status.

The S houses (as well as the Q houses) are highly mixed in type of household, religion and salary of head of household (see section 12.6). Therefore, the fact that the observers selected houses in which they already knew someone, does not mean that people of their own kind would be overrepresented in the sample. The proportion of privately built S houses in the sample (27 per cent) coincides well with the population census figure for "non-permanent" houses in Magomeni (about 30 percent). The geographical distribution of selected houses within the sampling area (see figure 8:II) is not too uneven. These factors also indicate that the sampling method used contains a strong element of randomness.

39 houses were selected for observations. All these houses were actually observed. Not all persons belonging to the households living in these houses were at home during the day of observation. Infants and persons who could be expected to spend most of their time away from home were excluded in cases where there were too many people to be observed.

The large reduction registered (40 per cent) includes a large number of people who were not at home on the day of observation and who, therefore, would not be observed. The real reduction mainly concerns bachelors who are usually not at home much and infants. For other categories of people the observation study ought to be representative.

In the interview study the proportion of non-response for heads of household in the S houses is 10 per cent, while that for wives is as high as 27 per cent. In almost all the cases of non-response the selected interview persons could not be interviewed because they were hard to find at home. Most of those selected heads of household who were not interviewed, were probably bachelors, who usually do not spend much time at home. Many of the selected wives, who were not interviewed are estimated to have been temporarily up-country. Therefore the sample might be slightly more representative of those who are "house-bound".

Although the sample of S houses constitutes only 1.7 per cent of the total sampling population, and although the sample was not

randomly selected, I consider the analysis above enough to justify a conclusion that it could be treated as representative of the situation in the urban Swahili type houses in Magomeni with only a few reservations. As Magomeni is unique in its character of being the result of slum-clearance projects, the sample can not be treated as representative of other areas with a high concentration of urban Swahili type houses (such as Kariakoo and Ilala).

For the observations in the Quarter type houses a random selection was made among the 164 sampling units in Magomeni. The sample constitutes as many as 12 per cent of the total population. Observations have been carried out in all the 20 selected houses. The same comments as for the S houses have to be made concerning reduction (registered as 29 per cent). It may be concluded that, except for infants, the observation sample should be representative for all categories of people in the Magomeni Quarters, who usually spend some time of the day at home.

Where the interviews in the Quarter type houses are concerned the sampling procedure and the proportion of the total sampling population are the same as those for observations. The proportion of non-response is as low as 2 per cent for heads of household and 6 per cent for wives. Therefore the sample should be highly representative for households in the Magomeni Quarters. Without knowing the social situation in other areas with identical Quarter type houses it is impossible to establish if the sample is representative of all houses of the same type, or of other housing areas of Dar es Salaam.

The sample of the NHC one-family units in Kinondoni was randomly selected. Insufficient efforts were made to find people at home. Therefore the proportion of non-response for heads of household is as high as 22 per cent (15 for wives). It is difficult to establish the character of the non-responding population. The sample might be biased and should be treated as representative only with this reservation. There are several other areas of Dar es Salaam of the same age and house type. To the extent that the sample is representative of Kinondoni south it could also be expected to represent these other housing areas dominated by the NHC one-family units.

Of all interview persons in the whole final sample, people in the respective house types are represented by the following proportions: 62 per cent in S houses, 27 per cent in Q houses and 11 per cent in NHC one-family units. These proportions do not coincide with those in Magomeni or with any other housing area in Dar es Salaam. Therefore the whole final sample cannot be said to represent the situation of any particular housing area, although the distribution over sizes of household as well as over marital status is almost the same in the sample as in the population census results for Dar es Salaam as a whole.

15 Methodological problems in the observation study

The method of observation employed in this study is not very advanced technically. It was regarded as the one closest at hand for the study of the use of dwelling spaces. Nevertheless it does not seem to have been used in other studies of this kind. Therefore, it might be motivated to discuss in greater detail the special problems encountered during the execution of the observation study.

15.1 Instructing the observers

The observers were found among unemployed young men living in Magomeni. The five persons selected had completed or interrupted secondary school. Three of them did not have full command of English, but knew enough to understand the instructions given. All five were living in urban Swahili type houses and knew the Magomeni area well. Only one of them had previous experience from social surveys. Two of the observers had other jobs during the observation period, using their free days for carrying out observations.

Before they were employed, the observers were requested to carry out at least half a day's test observation. The scope and purpose of the housing study were explained to them. Even if the full meaning of the study did not become clear to them, the observers obviously absorbed enough information to give satisfactory explanations to ten-cell leaders, house owners and others who required information about the study. Besides oral information, a written instruction was given to the observers. They were also provided with identity papers, clarifying, in English and Swahili, the authority of the study. These papers, signed by the project leader, were to be shown at request.

At the beginning it was difficult for the observers to remember all instructions given and to keep track of the two lists of keys. The completed observation forms were scrutinized by the project leader immediately after a day of observation had been terminated so that mistakes could be discussed and corrected. This system was used all through the observation period.

15.2 Sample distributed over observers

The observers carried out their first observations in houses where they already knew someone. The distribution of houses is shown in table 15:1.

Table 15:1 shows that two of the observers covered 75 per cent of the houses. These two observers covered roughly the same proportion of urban Swahili and Quarter type houses respectively, although one of them did not make any observations in private Swahili type houses.

Everybody living in the selected houses was to be observed. As has been mentioned in the previous chapter, infants and persons who could be expected to be away from the house most of the day, were excluded in cases when there were more than 15 people to be observed in the house. In most cases, between eight and 12 persons were included in the observation form. Of course, these persons were not at home at the same time. From the rate of change of activities found in this study, I estimated that the accurate observation of as many as 15 persons at the same time approaches the maximum possible number of persons to be observed by one observer.

15.3 The problem of gaining the confidence of the people

When preparing the observation study I thought it would be extremely difficult to carry out observations without causing suspicion. Thus anonymous observations were attempted at the beginning. However, the observers gave unanimous reports that their presence in the house did not arouse any suspicion. The people observed were said to be disinterested in the presence of the observer. Questions about the study put to the observers were reported to be satisfactorily answered by referring to the authorization by the National Housing Corporation and the University.

For these reasons, after the first observations, there were no hesitations to inform

Table 15:1. Houses distributed over house types and observers (number of houses).		NHC Swahili	Private Swahili	Quarters	Total
Observer no 1		12	-	8	20
Observer no 2		8	5	11	24
Observer no 3		3	1	1	5
Observer no 4		3	2	-	5
Observer no 5		3	2	-	5
Total		29	10	20	59

ten-cell leaders and house owners as well as the people to be observed, about the nature and purpose of the study. An information sheet in Swahili was worked out (see appendix no 1) and signed by the project leader and the NHC representative in the area. It was distributed to the ten-cell leaders and house owners concerned. This step proved to be superior for eliminating misunderstandings and objections to the study. People, who at the beginning were reluctant to accept the presence of the observer, were appeased when informed by their house owner or ten-cell leader about the legality of the study.

The observers may have tended to diminish the problem of gaining the confidence of the people to be observed, but there were no cases of refusals or serious objections to the study. Only in one or two cases were the observers requested to show their identity papers and in one case a ten-cell leader called for the project leader to give more information about the study.

15.4 Disruption in behaviour

When starting with anonymous observations I thought that the knowledge of being observed would affect the behaviour of the people observed. In the Swahili type houses the observers were sitting either in one of the rooms, looking out now and then, or in the central corridor. Even if people did not know the nature of the observer's notes, I estimated that he might upset the daily routine of the house. The observers reported, however, that people did not seem to be affected by their presence. Some of the observers' notes illustrate this problem:

- He asked why I was observing and I said:
"We are students who are eager to know how you enjoy living in your modern house".
- He asked me when the interviewer will come.
- He asked what I was doing.
- I was given a chair to sit.
- One tenant was watching my job.
- He told me that I have to go and eat.
- I was eating with my brother who lived in the house.
- He asked me why I refused to eat food.
- They asked me why I was sitting in the corridor.
- He was sitting beside me.
- He was watching my job.
- The husband came to talk to me.
- He asked if I was disturbed by them.
- They played cards in the corridor in order not to disturb me in the room.
- He was talking to the observer.
- They talked about the observer.
- I was drinking tea with them.
- He went to buy Fanta for the observer.
- He is cooking tea for the observer.
- He went away and left his key to me.
- He went to change money for the observer.

These selected notes show that there was a certain influence upon the behaviour of the people observed. It is quite obvious that the presence of the observer from 6 or 7 a.m. to 10 p.m. could not pass completely unnoticed. However, the experience from the

participant observation study of the project leader as well as the unanimous reports from the observers, indicate that the disruptions of behaviour are sporadic and usually of short duration. When controlling the observers, the project leader mostly found them alone filling in the form. Therefore I estimate that the normal life in the house was not in any serious way affected by the presence of the observers.

15.5 Seasonal influence

Observations were carried out during the period April-June. This means that the observation period partly covered the rainy season. The original plan was to investigate the influence of the climate upon the behaviour. Therefore a special column was added to the observation form for notes about sun, clouds and rain. At a preliminary control of these notes it became evident, however, that such an influence was rather marginal. It seemed that people escaped indoor only during heavy rains - usually of short duration. This observation is supported by a report of the Central Statistical Bureau (1967:2) in which it is affirmed that "in a place like Dar es Salaam where climatically the seasons are not so markedly different, the seasonal effect is not likely to be significant". In this case the possible effect concerns the household budgets, but the observation is also believed to be relevant to use of dwelling spaces.

Differences in use of space between the wet and the dry season could not be properly studied as the observers found it difficult to take notes about the weather. Such a difference might have distorted the results of the study. As the urban Swahili type houses were mostly observed at the beginning of the observation period (end of wet season), while the Quarter type houses were mostly observed at the end of the observation period (beginning of dry season) the use pattern in the respective house types might have been affected differently. However, the downpours were of short duration and continued to occur to some extent during the beginning of the dry season. Therefore, the possible disruptions caused by the climate are probably insignificant.

Another factor of seasonal variation is the harvest period. This factor could influence the observations either because people, mainly women, go up-country to assist at the harvest, or because people who have private shambas in Dar es Salaam, spend more time than usual away from home.

In both cases it is mainly the presence of women in the house that is affected. The first factor would reduce the number of women observed (see discussion on sampling problems), but that would not affect the normal use of space in the house by women in general. In case of the second factor the normal use pattern of women might have been influenced towards a higher degree of absence during the day time. The notes by the observers about the purpose of leaving the house, do, however, show that absence of this type is virtually non-existent.

I think that the discussion above justifies the conclusion that the use of space in the selected houses during the observation period does not deviate in any principal way from the typical use pattern of the year.

15.6 Other time factors

There were no indications that there would be monthly or weekly variations in living patterns. Any normal week-day could be selected for observations. During the observation period the days of observation are evenly distributed over the weeks and the months.

One full day's observation in each house was considered enough for the purpose of the study. For the sake of practical convenience of the observers, they were allowed to cover part of the time one day and the rest another day. This method was not used except in a few cases. Thus almost all observations were made over one single day. The observers even claimed that they usually made no breaks for meals.

Observations were originally to cover the period from 6 a.m. to 10 p.m., i.e. the awake time of most people in the area. For some of the observers it proved difficult to start earlier than 7 a.m. In the processing of the material it was decided to include only the time from 7 a.m. to 10 p.m., i.e. 15 effective hours. The time for hygiene and possible morning meals has perhaps been underestimated this way. Otherwise the observation time probably covers all main activities during the active time.

Another problem of time concerns the accuracy with which the observers have kept in step with time. During the test observations it was revealed that the observers tended to forget the time when too busy taking notes of the type and locality of the activities of the people observed. With some practice this problem was eliminated for all observers except one. When it was found out that he continuously found it difficult to follow the time schedule of the observation form his engagement as observer was terminated. Nevertheless five of his observations were considered good enough for processing.

The observers were allowed to leave the place of observation for periods shorter than 15 minutes if they had reason to believe that the activities in the house would not be very lively during their absence. Since the observers were all familiar with life in Magomeni - in many cases even with the people in the houses they observed - they could estimate the major features of the use patterns in advance. Frequently they also asked people about their executed or planned activities. Controls by the project leader showed that some of the observers were ahead of time when filling in the key symbols for people who were away from the house or engaged in time consuming activities.

The observation intervals were five minutes. If more than one activity occurred in the same interval the observers were instructed to take notes of this either in the same box or in the margin of the observation form.

The same instructions were given for cases of people carrying out two activities simultaneously. The frequency of "double notes" turned out to be very low. In the processing it was decided to exclude notes of less specified activities or less time consuming activities. I consider the effect of this factor upon the result to be unimportant.

15.7 Problems of key lists

As part of the written instructions the observers were provided with two keys: one of figures for the definition of spaces in and around the house (appendix no 2), and one of letters defining the activities to be registered (appendix no 3). The keys for space was easily learnt by heart and did not cause any problems. Some private S houses had rooms in the back yard, which had to be added to the key. In a few cases the observers changed the order of the private rooms, but these mistakes were easily corrected through checking the interviews.

The method of defining household activities resulted in a preliminary key for the activities to be registered. Based on the experience of the test observations this list was revised and the definition of keys further specified. The test observations were thoroughly discussed with the observers so as to correct misunderstood instructions as well as errors.

As the beginning the observers tended to include resting under "sleeping". Resting was considered to be closer to the key "doing nothing (in particular)". For that reason, clearer instructions were given on this point.

The activity "taking care of children" was difficult to define clearly. Mothers who carried their children on their backs, or who even fed their babies while doing other activities caused some confusion about which activity to register. I decided that "taking care of children" should only be registered when this activity was not combined with another activity. Therefore, the figures for this activity are underestimated in the time budget diagrammes. The same is true for "receiving guests", which could also be combined with other activities.

For activities away from the house the observers were requested to find out the purpose of leaving the house: "shopping", "visits", "work" or "away for other reasons". As the activities away from the house could not always be established, the three specified activities often fell within the category "away for other reasons". The figures for the activities under these headings must therefore be used with some reservations. However, the total time spent away from the house is not affected.

Activities which did not fall under any of the specified headings were requested to be noted in the margin of the observation form. Such activities were "listening to radio", "reading newspaper", "polishing bicycle", "beating child", "ironing clothes", "discussing with ten-cell leader", "reading a book", "doing his lesson", "praying" and "listening

to grammophone". All these activities were later included under one of the specified headings, mostly under "doing nothing."

Originally it was planned to include the activity "social intercourse" in order to get a more detailed and reliable measure of neighbourly contacts. It turned out to be difficult, however, to find a precise definition of this activity, a definition which could easily be applied by the observers. If, for instance, "conversation" would have been included in the key list, the observers would have had to stay within hearing distance of all the people observed. It would also have been necessary to make a distinction between "conversation between members of the same household" and "conversation between members of different households". It would also have been difficult to distinguish this activity from other activities carried out simultaneously. It is to be regretted that no more attempts were made to solve this problem. If, for instance, the experience of Ittelson et al (1970:658-668) could have been used when planning the field study, it would have been easier to find a solution.

15.8 Problems of estimates

In the case of the urban Swahili type houses the observers were mostly sitting in one of the rooms, paying frequent visits to the communal areas. In ten houses the observers remained in the corridor, from where he could watch most of the spaces of the house. In case of the Quarter type houses the observers were sitting outside the house, mostly near one of the kitchens.

In all three cases it is obvious that the observer did not have full supervision of the activities in all living spaces of the houses. He would have to rely on estimates based on guesses or questions put to the people observed. From the test observations it became clear that the observers tended to guess rather than indicate "don't know" when uncertain of the type or locality of a certain activity. Therefore the observers were instructed not to guess unless they had good reasons to believe they were right in their guesses. Nevertheless there were very few indications of "don't know" in the completed observation forms. The observers claimed that their estimates could be made with considerable accuracy.

It is difficult to ascertain to what extent the observers spent the whole observation time on the spot and to what extent they relied on estimates away from the house to be observed. I tried to prevent this kind of "error" by paying control visits to the places of observation. In a handful of cases the observers were not found on the spot. The reasons given by the observers were: "I had to postpone the observation to another day"; "I was there, but you did not see me, because the people in the house did not know I was there"; "You went to the wrong house", or "I had to leave for 10 minutes to fetch my identity papers". Only in one case could the observer not provide an acceptable reason for being away from the house to be observed.

His engagement as observer was then terminated.

During discussions with the observers it became obvious that they were not interested enough in the observation study to learn how to interpret their own notes. Thus, at the beginning, when they made mistakes, the observers did not discover contradictions in their own reports, such as indications of several persons visiting the latrine at the same time; one woman plaiting the hair of another woman who had left the house, or the report that a person spent more than one hour in the latrine. These initial mistakes were caused by inability to keep in step with time, but they also reveal the inability to interpret a completed observation form.

I believe that a limited amount of "estimates" was made away from the houses to be observed, but large scale forgeries would be impossible without giving highly improbable and contradictory reports. All observation forms were delivered the same night they were completed and were controlled in the presence of the observer. At least three of the observers, covering 83 per cent of the houses, gave fully satisfactory explanations to unclear points in the observation forms discussed.

15.9 Conclusions about problems in the observation study.

Although the observers might not have understood the full meaning of the housing study, they were sufficiently instructed and trained to carry out their task satisfactorily. Some observations were carried out anonymously, but more than half of them were preceded by written and/or oral information to the people concerned. In both cases the distortions in use of spaces caused by the presence of the observer are considered negligible.

I estimate that the observation study has not been affected by seasonal influence and that it covers the behaviour of typical weekdays all year around. Possibly the difference in time spent indoors and outdoors between the two house types has been somewhat affected by the fact that most urban Swahili type houses were observed at the end of the wet season while most of the Quarter type houses were observed at the beginning of the dry season.

The observers had some difficulty in keeping check on the time, but distortions caused by this factor are probably not large. The fact that the observations did not start before 7 a.m. might mean a slight underestimate of time for hygiene and morning meals. The keys of places and types of activities did not cause any trouble, except that "taking care of children" and "receiving guests" might have been underestimated because of priorities given in case of double registrations.

Reservations must be made for the possibility of a limited amount of "estimates" made away from the house. However, being familiar with life in Magomeni and even with many of the people observed, I think the observers had good opportunity to make correct estimates about activities that were not directly observed.

16 Methodological problems in the interview study

No proper interviewing was made in the participant observation study, I just absorbed and (later) took note of the information which happened to be given to me. My knowledge of Swahili was insufficient for interviewing in this language. I still had a fair amount of discussions with Magomeni inhabitants who did not speak English, through the assistance of friends who interpreted from and to Swahili. Thus, there was a big leap from the completely unprepared conversations of the participant observation study to the rigidly structured interviewing by employed interviewers in the interview study.

16.1 Preparations for the interviews

The interviewers were employed through the Department of Sociology of the University College. Four of the five interviewers had previous experience from interviewing and were recommended by a member of staff of the Department of Sociology, who knew of their experience in the field. The fifth interviewer was a law student. There was one female interviewer.

A considerable effort was made to explain the background and purpose of the study to the interviewers. All interviewers were requested to study the duplicated plan for the field study. Four of the interviewers accompanied the project leader to the house owners and the ten-cell leaders to explain the purpose and nature of the study. They made a few test interviews with the preliminary questionnaire. One of the interviewers translated the questionnaire from English to Swahili. After the test interviews had been made, a full day was devoted to a discussion on problems in the interview situation. Several alterations made in the questionnaire were based on proposals from the interviewers.

One can thus say that the interviewers were well prepared for their job. During the whole interview period they discussed with the project leader about problems arising from the interviews. The interviewers were paid per interview and came one to three times a week to deliver completed questionnaires. These questionnaires were immediately examined and discussed if found incorrect. Questions

often left out could be filled in by consulting the memory of the interviewer. Only in a few cases did the interviewer have to return to complete the interview. I had a certain use of Leslie's experience as presented in his first manuscript (Leslie 1957:320) in my attempts to prevent misunderstanding, negligence and forgeries by the interviewers.

The number of interviews per interviewer varies from 30 to 125. One interviewer has carried out all her interviews in the NHC one-family units in Kinondoni, while three interviewers have been interviewing in the urban Swahili and the Quarter type houses only. Only one interviewer covered all four house types.

No houses were shared by two interviewers. All interviewers made interviews with both the head of household and with the wives. Thus they had good opportunities to get to know the situation in "their" house. The possibilities of the interviewers to establish the degree of reliability of replies are estimated to have increased considerably by using this procedure (cf Southall & Gutkind 1957:217).

The time taken by the interview was noted after each interview. This time varied from 20 minutes to more than two hours. The average time per interview varied from 40 minutes (interviewer no 5) to just over one hour (interviewer no 1).

16.2 Confidence in the interview situation

In order to obtain a clear picture of the problems related to the interview situation, a special form was worked out for the interviewers to fill in after each interview (see appendix no 5). Besides the standardized questions on the interview situation, the interviewers were requested to give comments on particular problems. This opportunity was used in about 12 per cent of the cases. Some of the comments relate to the respondent's confidence:

- The respondent was reluctant to answer the questions thinking I was a dangerous person despite my efforts to make him trust my intentions.
- No matter how I tried to explain the aim of

Table 16:1. Interviews distributed over house types and interviewers (final sample).

	NHC S	Private S	Q	F	Total
Interviewer no 1	69	0	35	0	104
Interviewer no 2	40	20	14	0	74
Interviewer no 3	0	0	0	30	30
Interviewer no 4	13	43	37	17	110
Interviewer no 5	81	9	35	0	125
Total	203	72	121	47	443

the survey to him, he saw no reason at all of how it will benefit him. He thought that the interview was just a bother.

- Respondent does not seem to have liked the interview.
- He understood the questions but regarded them childish and refused to answer most of them. I explained in vain.

According to the standardized questions about the interview situation 38 respondents (9 per cent) showed some sign of suspicion. 20 of these were judged to have been suspicious only at the beginning and ten only at specific questions. Only eight respondents were reported to have been suspicious during the whole interview. Interviewer no 1 has indicated only one case of suspicion, while interviewer no 5 has indicated 19. I think this difference is caused by the variation in accuracy when filling in the form rather than by the ability of the interviewer to create an atmosphere of confidence in the interview situation. There are indications that the interviewer who reported the lowest frequency of suspicion is in fact the one who had greatest difficulties in creating a sense of confidence in the interview situation.

One possible result of lack of confidence is that the respondent would be less careful in giving correct information to the questions put. According to the interviewers only 13 respondents (3 per cent), were estimated to have given misleading replies to certain questions.

16.3 Interest in the interview

In general the respondents were reported to have been very co-operative and interested in the interview (81 per cent of all interviews). However, there are large variations between the interviewers: 95 per cent for interviewer no 1 and 60 per cent for no 2. This difference probably reflects the lack of definitions of "co-operation" and "interest, rather than the ability of the interviewer to attract the interest of the respondent. Furthermore, the phrase in the form is worded such that no distinction is made between respondents who show a "normal" co-operation/interest, and those who are really uncooperative or disinterested. Therefore the actual amount of uncooperative and disinterested respondents can not be estimated from these figures.

28 respondents were reported to have been very talkative and 23 to have been tight mouthed. Only six persons were said to have been bored. Some difficulties in the interview situation are illustrated by a selection of comments made by the interviewers:

- Respondent had the belief that the questions would be similar to those he had 4 months ago (urbanisation and labour stability). But he slowly became interested.
- Respondent posed questions instead of answering. Therefore I had to repeat and insist on answers from him.
- He gave misleading reply as to which room he is using.
- Respondent says that he is not married but there is a woman who is staying with him,

though when I was making the interview she disappeared.

- Respondent seems to have been drunk if only not too arrogant to give satisfactory responses. NHC says he is an illegal occupant. Almost all he says is inconsistent. To my Swahili questions he would reply in English!
- It seems as the "wife" of the respondents is his concubine, because after I interviewed her I was told that he is single.
- There was no light in the house, recording the information was difficult.
- As if disgusted about the poor condition of the house he did not want to give opinion about things he knew. He just talked to avoid giving answers.
- Husband presented difficulties and did not answer questions.
- Respondent was one of the few people to give detailed information as requested.
- Wife was very shy in answering.
- Respondent is relatively young and seemed to know little about housing problems in Dar es Salaam.
- Respondent refused to answer some of the questions and was bored when his friend came for a visit.
- Respondent is a soldier and says he is not allowed to comment on the house (state property). The suspicious attitude died out when he found that I was a soldier(!).
- The wife was not at ease. I think she would have been if the interviewer was one of her sex.
- The woman was not ready to answer the questions initially. With the encouragement of her husband, however, she got started.
- The wife had to break for 5 minutes to attend to children. Husband tended to talk too much. But they were helpful in general.

16.4 Understanding

An important factor in establishing the reliability of the replies is the respondent's understanding of the questions put. The interviewers give different reports about this problem. Interviewer no 4 reports 17 cases of incomplete understanding, while interviewer no 1 has indicated none. Possibly the latter did not apply too strict a definition of "understanding". Altogether more than 90 per cent of the interviews are reported to have been made with full understanding. Only nine respondents are reported to have found the whole interview very difficult. The interviewers had the following comments concerning this problem:

- The wife had problems in understanding most of the questions. She had just come from up-country and does not know much about life in Dar es Salaam.
- The respondent is an Arab merchant who does not understand Swahili properly. He had great difficulties in answering the questions and while I was interviewing him he was busy selling.
- As if a little deaf the respondent had to ask for questions to be repeated several times.
- Respondent was not giving relevant answers. He is over 60 and likes to talk uninterrupted. I would not consider his information to be

reliable.

- Respondents are from Uganda, they have problem of language. They could not express themselves clearly.
- According to other tenants the respondent had suffered from a mental disease. He was suspicious and bored by the questions.
- Wife's Swahili was not clear. I did not want to distort the interview by interpreting in her language.

Considering the fact that as many as 71 questions (37 for wives) were put to the respondents, and that many of the questions demanded a rather good memory, the number of cases of incomplete understanding is not strikingly high. The proportion of incomplete understanding is higher for women than for men (15 and 6 per cent respectively). This difference is probably a reflection of the higher rate of illiteracy among women.

In the processing it was found that the frequency of "no reply" was very low. 50 of the 71 questions put to heads of household had no case of "no reply". Only six questions had more than ten cases of "no reply". These questions are discussed separately.

16.5 The presence of others during the interview

A common problem in interview studies is the influence of other people present during the interview. In certain cases the presence of other people is supposed to influence the replies given towards a higher degree of correctness. In the case of the housing study I thought that the absence of other people would have the best effect on the reliability of replies to the majority of questions. The interviewers were instructed to use all diplomacy possible in order to avoid distortions in the interview by the intervention of other people. By interviewing husbands before wives I thought that husbands would be less interested in listening to the interview with the wife. For the same reason the questionnaire for wives was commenced by what was considered typical "wife questions": about cooking facilities, child care etc.

If the presence of other people could not be avoided, the interviewers were instructed to take notes about who was present and for how long. Interviewer no 1 has not recorded any case of such a presence. Since it seems improbable that he has managed to keep people away for the whole interview period of all his 104 interviews, I assume that his report about the interview situation is not correctly completed. In 75 per cent of the cases the interviewer was reported to have been alone with the respondent. For interviewer no 2 this figure was less than 50 per cent.

In 40 of the cases the wife/husband was

reported to have been present, in 50 cases it was a neighbour, and in 18 cases "others", or a combination of the former, were reported to have been present. In about half the cases, the presence lasted for the whole interview. Husbands or boy-friends were reported to have been present at the interview of the wife/girl-friend in only 20-30 cases. Their presence was reported to have lasted for the whole interview in only 10-20 cases.

Did the presence of others during the interview influence the replies of the respondent? The interviewers gave some replies:

- The presence of the husband seemed to make her uncomfortable such that she tended to conceal much of what she wanted to say.
- Several times the husband wanted to give answers for his wife.
- Wife said they get visitors who sleep in the courtyard. The husband then interfered. From that question the wife became more careful and I have the feeling that the presence of the husband affected the interview.
- Wife could not talk freely from question 1 to question 16 since the husband was present. He tried to answer her questions. I managed to persuade the husband to be out.
- The boy-friend of the respondent was present and he tried to intervene all the time.
- Husband was present at wife's interview but did not listen as he was busy with something else. Nevertheless the wife was shy and did not answer questions.

All these comments seem to show that the presence of a husband or boy friend may have distorted the reply of the wife/girl-friend. Someone's presence at the interview of wives amount to 15 per cent during the whole interview and 14 per cent for part of the interview. This fact has to be taken into account when analysing the replies of the wives.

16.6 The influence of the interviewers upon the replies

The importance of analysing the possible distorting influence of the interviewer in the interview situation has been emphasized above. This factor can be further illustrated by studying the difference in replies to certain questions, on which the interviewer could be expected to have such an influence.

Table 16.2 shows that interviewer no 1 has an overwhelming majority for neutral replies. A closer investigation shows that he has interpreted most of his replies as equivalent to "OK", which could be seen as a positive reply, but which has been coded as "neutral". Interviewer no 3 has a high frequency of replies classified as "other". This

Table 16:2. Replies to question 1. "How do you see life in Magomeni/Kinondoni?", distributed over interviewers (per cent).	Reply:	Positive	Neutral	Negative	Other	Total	n
	Interviewer no 1	11	84	4	1	100	74
	Interviewer no 2	70	12	16	2	100	50
	Interviewer no 3	21	-	36	43	100	29
	Interviewer no 4	84	10	4	1	99	77
	Interviewer no 5	62	25	12	1	100	81

Table 16:3. Replies to question 2, "How do you see life in this house?", distributed over interviewers (per cent).	Reply:	Positive	Neutral	Negative	Other	Total	n
	Interviewer no 1	10	85	5	-	100	104
	Interviewer no 2	60	4	32	4	100	74
	Interviewer no 3	72	3	10	14	99	29
	Interviewer no 4	69	5	24	3	101	110
	Interviewer no 5	42	38	17	3	100	125

Table 16:4. Replies to question 52, "Do you think that married and single people should live in the same house?", distributed over interviewers (per cent).	Reply:	Don't know	Yes	No	It depends	Total	n
	Interviewer no 1	1	63	28	8	100	104
	Interviewer no 2	4	38	45	14	101	74
	Interviewer no 3	20	33	37	10	100	30
	Interviewer no 4	7	39	37	16	99	110
	Interviewer no 5	1	55	33	11	100	125

is due to the fact that her notes are very detailed and, thus, more difficult to classify in positive/neutral/negative. The proportion of positive replies varies from 11 per cent (no 1) to 84 per cent (no 4), while the proportion of negative replies varies from 4 per cent (no 1 and 4) to 36 per cent (no 3).

These large difference between the interviewers could be a result of the uneven distribution of house types by interviewers provided that the replies to question 1 are strongly related to the house type. However, a separate investigation shows, that the differences in replies to question 1 are clearly larger when distributed over interviewers rather than over house types. Therefore I conclude that there is a considerable interview effect for question 1.

Again, interviewer no 1 has classified most of his replies as "OK". The proportion of positive replies varies from 10 per cent (no 1) to 72 per cent (no 3), while the proportion of negative replies varies from 5 per cent (no 1) to 32 per cent (no 2). In this case as well, the differences are larger when distributed over interviewers than over house types, which indicates that the replies to question 2 are not very reliable.

The divergence between the interviewers is less striking in this case. The proportion of "Yes" replies varies from 33 per cent (no 3) to 63 per cent (no 1). These differences are larger than those distributed over house types. As all interviewers are single people the possible influence of the marital status of the interviewer upon the replies to this question can not be deduced from the table.

*

The discussion above shows clearly that the interviewers have had a distorting influence upon the replies to certain questions. This distortion seems to have been stronger for interviewer no 1, if not because of his influence upon the interview situation, then because of his negligence when writing down the replies. The distortion especially concerns the open attitude questions requesting careful interpretations of possible vague replies (about 10 questions), but might also have affected attitude questions with simple or fixed alternative replies (about 10 questions).

16.7 Problems of certain questions

The questionnaire was thoroughly discussed and tested several times before it was accepted. Thus ambiguous and sensitive questions could be changed, replaced or excluded. I consider the problems arising from inappropriate construction of the questionnaire to be of not too serious a character.

The introductory open question about the general attitude to the housing area and the house seems to have served its purpose to make the respondent feel at ease. However, question no 5 about the kind of neighbours who bring most trouble to others seems to have demanded a little more frankness than some people were prepared to show. As many as 24 respondents refused to answer this question.

As was expected, question 8 about the three last house types the respondent had been living in, caused some problems of memorizing. In most cases, however, a rough estimate was possible. The question does not include time in present house. Despite this mistake it was possible in most cases to calculate this time from the replies to questions 6 and 8. Only in 36 cases could the time in the present house not be established.

In question 24 concerning background data around the household, the position in the household is defined as the relation to head of household. Therefore the interviewers did not include head of household in the list of members of the household during their first interviews. This mistake was corrected as soon as it was discovered. After consulting the memory of the interviewers only a few pieces of information turned out to be missing: occupation of ten persons, district of birth and age of four persons and religion of two persons.

The questions about children sleeping in the same room as their parents (29 and 30) touch upon private aspects of family life. Nevertheless only eight and six respondents respectively refused to answer and only eight and 17 respectively answered "don't know".

In question 31 the respondents were requested to give details about how they spent the day before the interview. Locality and time for all activities from waking up until going to bed needed to be specified. The purpose of the question was to get a rough idea of a time budget to be compared to the observations. It did, however, turn out to be very difficult for the interviewer to get a satisfactory reply to

this question. The respondents did not see the purpose of the question and did not remember very well how they spent their previous day. The information collected was considered insufficient for any kind of processing.

Questions 35 and 36 concern having meals with others in the same house/street or during Ramadhan. As many as 20 and 12 respondents respectively failed to answer these questions. The reason for this has not been found.

Question 39 about who does the cooking when the respondent is ill in bed was not to be put to married men. It was thus preceded by the written instruction "If single". When typing out the questionnaires for wives this instruction was retained, thus making the interviewers avoid putting the question to wives. A large number of interviews (between 30 and 50) were carried out before the mistake was corrected.

Questions 40 and 41 deal with lending and borrowing money in the house/street. I thought that respondents might not be willing to give correct information to these questions but that it would be easier to admit to lending than to borrowing money. The replies reveal that 17 per cent said they have lent, while only 13 per cent say they have borrowed money. Unless there are fewer borrowers from a larger number of lenders the figures should be the same. It seems as if my suspicion was well-founded.

19 respondents failed to answer question 50, concerning what people quarrel about. I estimate the number of refusals to question 51, "Have you quarrelled with anybody?", to be relatively high, although this can not be seen from the processed data.

Concerning question 67 about costs for electricity and water, a mistake was made in the questionnaire by neglecting to specify what kinds of costs. Some houses have water in the house and pay for it as part of the rent while others buy water from watersellers. Costs for electricity should be compared to costs for kerosene in houses without electricity. Since the Household Budget Survey of the Central Statistical Bureau would include detailed information about these costs, I decided not to process this question.

Concerning people's income I assumed that people would be hesitant to give correct replies. However, the experience of the study "Family Life in Dar es Salaam" had shown, that it was easier to make people answer if a scale of income groups was shown to be marked by the interviewer. This method was applied and the result was only 12 refusals.

16.8 Consistency in replies

The questionnaire was designed in such a way that the replies to certain questions would logically imply specific replies to certain other questions. By comparing the replies to two such related questions for the same respondent, a measure of consistency would be obtained. I considered consistency in replies as an indication of reliability.

When examining some of these questions thought to be logically connected, I found that

"inconsistent" replies could be logically defended if interpreted in a way slightly different from the intention. One such example is question 22, "Now, are you happy that you moved to this house?", which was designed for comparison with question 54, "Would you like to move from this house?". I thought that a negative reply to question 22 would logically imply a positive reply to question 54.

Table 16:5. Consistency in replies to questions 22 and 54 (number of respondents).

Happy to have moved:	No	Yes
Wants to move:	No	289
	Yes	61

Table 16:5 shows that 19 per cent (marked figures) of the respondents are inconsistent in the assumed sense. However, the 16 respondents who said they are not happy to have moved to their present house, but still said they do not want to move, might have thought that they cannot get a better room anyway. Furthermore, the 61 respondents, who said they are happy to have moved and who still said they want to move, are not necessarily inconsistent as they might have increased their ambitions and learnt more about the disadvantages of the new house meanwhile. Thus, although the degree of "consistency" is fairly high, it cannot be used as a satisfactory measure of reliability in the interview study.

I also thought that the replies to question 21 about reasons for moving to present house could be used for tracing inconsistencies. I thought that the replies to the first part of the question, "What made you move from your previous house?", should be consistent with the reply to the third part, "If you think of all these reasons for moving, which was most important?". However, the fact that 26 per cent of the respondents gave "inconsistent" replies to the two questions does not tell much, because the first question does not explicitly refer to the most important reason, and also because some alternatives are strongly related (see section 9.6).

Perhaps a more useful comparison is that between question 2, "How do you see life in this house?", and questions 60 and 61, "What is the best/worst thing about this house?".

Table 16:6. Consistency in replies to questions 2 and 60 (number of respondents).

Life in the house:	Good	OK	Bad
Best thing:			
Nothing	12	10	18
Something	169	120	57
Everything	11	11	1

It would obviously be inconsistent to say that nothing is good in the house and at the same time answer that life in the house is good or OK (marked figures 12 and 10). Likewise it would be inconsistent to say that everything in the house is good and still maintain that life in the house is bad (marked figure 1). As to the 57 respondents who have replied that something in the house is good, and who

have said that life in the house is bad, one cannot say that, they are necessarily inconsistent. The same is considered to be the case for those 11 respondents who said that everything is good, but who still only gave a neutral reply to question 2. The true degree of inconsistency is therefore less than 6 per cent.

When comparing question 2 with question 61 about worst thing in the house it is revealed that only seven out of 399 respondents (i.e., less than 2 per cent) are considered really inconsistent, but I am doubtful whether the two questions are not in fact too general to provide any useful information about inconsistency and reliability.

16.9 Conclusions about problems in the interview study

This chapter has attempted to pin-point the most important deficiencies in the preparation and execution of the interview study in order to evaluate the method of investigation and to obtain some criteria for establishing the degree of reliability in the interview study. It is difficult to make any definite conclusions, but some cautious reflections may be allowed.

The interviewers were all well qualified for their job. They were also reasonably well informed about the aim of the study and I am confident that they understood their role as interviewer in a proper manner. However, interviewer no 1 has evidently been unduly negligent when filling in his questionnaires, giving very rough interpretations of detailed replies, ignoring certain problems in the interview and neglecting to give full information about the interview situation. These deficiencies have obviously distorted the replies to some questions.

All interviewers have a low rate of "no reply". Only six of the questions show more than ten cases of "no reply". Provided that respondents were not afraid to answer "don't know" this is an indication that the questionnaire was intelligible to the respondents. About ten questions out of 77 (including the special questions for wives) have caused some problems. In only three of these I estimate that the errors have been so serious that no processing was possible.

In consider the problem of gaining the confidence of the respondents to have been satisfactorily solved. Only one case of complete re-

fusal is recorded. According to the interviewers 9 per cent of the respondents showed some sign of suspicion. Most of these were said to have been suspicious only to part of the interview. Because the interviewers interviewed both husband and wife and because they covered all households in the houses selected, I estimate that the interviewers had a good opportunity to discover cases of incorrect information. Only 13 respondents are recorded to have given misleading replies to certain questions. Most of the respondents are said to have been interested and co-operative during the interview. Only six persons were reported to have been bored. The degree of proper understanding of the questions (90 per cent) is considered satisfactory. Even if some interviewers seem to have underestimated the difficulties in the interview situation, the analysis indicates that the problems of confidence and understanding have been solved correctly.

This is, however, less true for wives than for heads of household. The higher rate of illiteracy among women probably accounts for the higher frequency of insufficient understanding in the case of the wives. The interviews with the wives also seem to have been to some extent distorted by the presence of husbands during the interview. This problem is also illustrated by the fact that the number of non-response for wives is about twice as large as that for heads of household.

I find it difficult to draw any definite conclusions about reliability in the interview study from the discussion about consistency in replies. One can say that any analysis of replies to interview questions should contain an element of testing of reliability and validity. Chapters 9-13 do contain such elements. The conclusions to be drawn in chapter 17 must therefore be based on this wider discussion and not only on the limited discussion in this chapter.

The most serious error in the interview study is the distorting influence of the interviewers. As the distribution of interviewers over house types is very uneven it is difficult to isolate the influence of the house type from that of the interviewers. For at least three attitude questions the differences in replies are larger when distributed over interviewer than over house type. The interview effect obviously relates mainly to questions about attitudes, especially to those about ten attitude questions demanding careful interpretations of possible vague replies. For these questions the interview effect must be analysed before conclusions about the replies are drawn.

17 Conclusions

An analysis of human requirements on dwellings always contains subtle and uncertain factors and such which are ideologically controversial. This thesis confirms that very little can be "proved" through statistical evidence about the relationship between social life and the organisation of dwelling space. Instead one has to work with "indications" and subjectively influenced interpretations of complicated correlations.

One way out of the situation is for the researcher to characterize his material as a "basic material for physical planning" and leave it with all its contradictions, uncertainties and omissions to others and let them draw their own conclusions. The right of different interpretations should always exist, of course, but I think that whoever is responsible for a research project has a right and a duty to present his own interpretations and draw conclusions which are not exclusively "factual".

In this terminating chapter I want to summarize my previous conclusions and try to carry them a bit further. I divide my final conclusions into three main parts: one about methods of investigation, one about the basic and main assumption and one about the advantages and disadvantages of the four house types studied. In the case of determinants of house form and the development of the Swahili type house, conclusions were drawn in direct connection with the analysis (particularly in sections 5.4, 5.5, 5.6, 5.9 and 6.1) and they will not be repeated here. Recommendations for future research are also given.

17.1 Conclusions about methods of investigation

In his survey of Dar es Salaam in 1955-56 Leslie processed information from 5 000 interviews, but when he wrote his final report (his book of 1963) hardly any statistical material was presented. Instead Leslie's book contains a great deal of personal reflections and individual examples, illustrating the points Leslie wants to make. The presentation is completely unstructured, now and then even interrupted by "interludes": dialogues or personal stories about life in Dar es Salaam.

Leslie does not give his reason for abandoning a normal statistical presentation, but such reasons would not be difficult to provide. Many readers of his book probably agree with me that his presentation is vivid and "interesting". Leslie obviously knows a great deal

about everyday life of poor people in Dar es Salaam and he conveys his experience without saying exactly how typical it is. I consider the main benefit of "A Survey of Dar es Salaam" to be that Leslie has grasped a series of important problems and rejected the superficial kind of approach common in many contemporary studies.

When I started the planning of my field study (before 1969) I was influenced by Swedish building research projects, which usually included a random sample and comprehensive statistical processing. I took it more or less for granted that such an approach would also be required for my field study in Dar es Salaam. However, an important difference was that a period of participant observation was planned as a formulatory study.

Before I went to live in Magomeni my ideas of how to concretize the basic assumption were very vague. Now my assessment is that the participant observation study was absolutely necessary for specifying the subsequent assumptions in the study. If I had tried to design the observation and interview studies at a desk at the university without living with people in the area to be investigated, I am sure that many more mistakes would have been made than were actually the case. Of course, I had good use of the writings of Leslie and others who had made field studies, but for the specification of assumptions about the particular problems in my study, these documents were far from enough.

I consider the question of gaining the confidence of the people concerned to be decisive for the success of a study of this kind. In the case of this study comprehensive information work was carried out after the first anonymous observations had been made. I got a strong impression that people were satisfied when convinced about the authority of the study. They did not appear to be interested in any details about the nature of the study. They probably considered our introduction of the study through personal visits as an act of courtesy, which made them sympathetic to the observers and interviewers, who came later.

In table 2:1 I have listed the methods of investigation used and indicated which methods were employed for which problems areas. Since so many different methods have been used, the possibilities for evaluating these methods are good.

Analysis of written documents has been used for all problem areas except for those where virtually no literature was available. A substantial number of titles in the list of literature (at the end of the report) are docu-

ments obtained through channels other than the conventional ones: mimeographed papers, typewritten manuscripts, unpublished theses, draft reports and other documents which could not be found in any library index. This type of literature was mainly obtained through personal contacts.

Many mistakes could have been avoided if I had absorbed more of the theoretical writings before carrying out my field study, but I could probably not have interpreted the theoretical literature correctly, until the empirical study put me on the track of some specific problems for which I sought a solution. This conclusion is verified by the fact that rereading documents which I had studied before the field study, often gave new insights in the light of my own findings.

Close examinations of detailed formulations in comparison with other sources made me discover unclear and dubious points, in my own thinking as well as in that of others. Reports of empirical studies which do not confront current ideas and previous studies with the new findings are often less useful, especially in a subject such as building function analysis, where practical application is vital.

A method which could probably have been further employed is interviews with key persons. Particularly for the historical development of house types, life in Magomeni and housing policy, more old Dar es Salaam inhabitants, ten-cell leaders and responsible administrators and politicians could have been interviewed.

Photographical registration was not planned from the beginning, and when this method was later used, it was mainly applied to the study of furniture. It could probably be fruitfully applied to the study of details of construction, especially if combined with the measuring of ground plans of the privately built urban Swahili type houses, in which there are always individual variations of the basic pattern of spatial organisation.

Study visits to various parts of Dar es Salaam and other parts of Africa was a useful method to obtain supplementary information about certain problem areas.

The participant observation study has been evaluated as a necessary formulatory study before the "real" study was carried out, but in the light of the combined evaluation of methods of investigation, I think that participant observation could have been used more often, particularly since the whole study is problem-oriented. The benefit of this method becomes obvious if compared to the more resource-demanding ones.

One of the most crucial questions is whether the methods employed have provided results in relation to their costs. Perhaps the main lesson I want to draw is that it was probably not correct to employ so many resources in the interview and observation study, considering the fact that spatial organisation could not be isolated from other factors distinguishing the house types, so that unequivocal correlations could be deduced, and also because these methods could

only provide information about well-defined problems.

One-day participant observation in other houses, especially in the Quarter type houses and the NHC one-family units, combined with unstructured interviews through an interpreter, could fruitfully have complemented the structured interviews.

The way it was made, the gap was too wide between participant observation and strictly structured interviews. Although completed questionnaires were scrutinized immediately upon delivery (on average once a week), the negligence of interviewer no 1 was not discovered until after processing. This could have been avoided, and interviewers could have been instructed better and more unitary if I had carried out the first interviews with the students as interpreters.

Observation through employed observers is a method which I do not think has been used anywhere else for the study of space usage. It proved useful for its purpose. One may ask if it might also be used for the study of one-family houses without disturbing the result. A smaller number of observations would probably have given equally useful information at the same time as a reduction would have facilitated controls so that possibly biasing "estimates" could have been avoided.

17.2 Conclusions about the basic and main assumptions

The basic assumption was formulated in a very general manner. A certain degree of precision was obtained through the specification that the housing variable should only be restricted to "the organisation of dwelling space" and that the social variable should focus on "relations between people". A further specification was that the latter variable should concern "interesting" aspects and not trivial ones.

For the analysis of three specific house types in Dar es Salaam, the basic assumption was broken down into three main assumptions, one relating to each house type. This procedure was determined by the assumption that the main difference in spatial organisation between the three house types was the degree of collectivity. I find no reason to revise these assumptions, but, of course, there are differences in spatial organisation other than those relating to the degree of collectivity. Thus, evidence could be found in support of the basic assumption without supporting any of the main assumptions. Both these types of evidence have been indicated in the previous conclusions. The conclusions of the respective chapters are summarized in chapter 2. The final conclusions are drawn below.

The basic assumption is not to be "tested" in the sense that I want to "prove" that the organisation of dwelling space influences social life, generally speaking. The important question is how social life is influenced. Certain types of behaviour such as movement patterns are directly affected by spatial organisation, but this is usually too trivial to

mention. Spatial behaviour is, however, important as an intermediate link to such types of behaviour which relate to social relations. Thus, movement patterns imposed by spatial organisation may stimulate conflicts/co-operation between neighbours or promote isolation from other people.

Although some of the most important assumptions in chapters 10, 11 and 12 have not received any support in my empirical material, I am not prepared to reject main assumptions A, B and C. The lack of support is not of such a character as to contradict the main assumptions, usually it seems as if the method of investigation or the problem formulation are inadequate.

One important conclusion is that there is no direct correlation between the organisation of dwelling space and social relations between people - such correlations are indirect and dependent of many aspects other than spatial ones. This is further discussed in sections 17.3 and 17.4.

I think that the value of a study such as this does not depend on whether or not one's assumptions are supported. The fact that clear replies to one's assumptions are not received may lead to revisions of problem formulations and perhaps one's theoretical frame of reference, and thus contribute to a better understanding of the whole problem complex.

17.3 Theoretical comments on the question of crowding

A weak point in my analysis of the problem of crowding is that I have not discussed the concept of "privacy" thoroughly enough. The problem can be illustrated by a quotation from Southall & Gutkind (1957:127):

"... quite a number of informants complained about overcrowding, but they were not thinking about density per room so much as about the absence of privacy:"

The authors refer to the lack of clean and private toilet facilities and to closeness between neighbouring households, but there are also many other aspects of privacy. R.E. Mitchell, in his study of social implications of high density housing in Hong Kong and other major South-East Asian cities (Mitchell 1970), finds that lack of privacy is mainly a question of sharing one's dwelling with other households and not so much dependent on the number of people in a dwelling unit or the amount of floor area per person. The interview questions that Mitchell put, referred to whether one has to hide to do something private; whether one can discuss with one's spouse without others listening; or whether one can avoid a person one wants to avoid (p 23f).

In another social context privacy means something else; for instance, that each individual has a room of his own, that there are separate toilets, or that the maid lives away from the (upper class) family (Rosow 1961: 129). The importance of privacy for the conception of overcrowding has also been demonstrated by Hartman (1963), who points out

that "a good deal of our thinking about optimum amount and type of living space is based on an explicit or implicit regard for the virtues of privacy..." (p 129).

An attempt to define the concept of "privacy" has been made by the WHO expert committee on the public health aspects of housing (WHO 1961). It states that

"There is the privacy of seclusion in individual rooms. There is the privacy of vision, of restricting the possibility of looking into a dwelling unit through the door and windows, and there is the privacy of sound." (p 20)

In recent years more theoretical work has been done on privacy and crowding. Perhaps the most substantial research has been carried out by Harold M. Proshansky, William H. Ittelson and Leanne G. Rivlin at the City University of New York. These three researchers began to investigate psychiatric wards and then turned to more general questions about the relationship between man's behaviour and physical environment. They have named their field of research "Environmental psychology", which is also the title of a voluminous anthology edited by the three "environmental psychologists" (Proshansky et al 1970b).

The theories of Proshansky et al are heavily biased by their behaviourist approach, but I find some of their reasoning on privacy and crowding interesting as it reveals deficiencies in my own approach.

Proshansky et al assume that any human being requires a minimum amount of physical space to exist and survive and that this space is determined not only by the need to satisfy one's hunger, thirst, sex and other biological drives, but also one's needs for "affiliation, achievement, success and other complex social moves" (p 179). It is furthermore suggested that the

"inner determinant of territorial behavior in the individual is his desire to maintain or achieve privacy. Territoriality thus becomes one mechanism whereby he can increase the range of options open to him and maximize his freedom of choice in the given situation." (Proshansky et al 1970b:180).

Privacy is defined according to four key concepts used by Westin (1967). They are "solitude", which means that a person is free from the observation of others; "intimacy", referring to personal relationships within a dyad or larger group; "anonymity", which is a state in which the individual seeks and achieves freedom from identification and surveillance in a public setting; and "reserve", which is the state of privacy allowing a person not to reveal certain aspects of himself.

Consequently crowding is defined as "a psychological phenomenon... (which) is only indirectly related to mere numbers or densities of people. It is possible to feel crowded in the presence of few people or not crowded in the presence of many. The significant element appears to be frustration in the achievement of some purpose because of the presence of others. Crowding is thus directly related to privacy and territoriality."

(Proshansky et al 1970b:182)

A disciple of Proshansky and Ittelson, Miriam Liebman, has applied their theory to the question of sex, race norms and personal space (Liebman 1970). She develops the concept of "space violation", saying that such violations may take three forms (p 214) and that they may lead to four categories of reactions (p 215).

Both Proshansky et al, and Liebman focus their attention on the psychological aspects. Someone, who uses a similar approach, but with a focus on spatial organisation, is Sven Dahlman. He has studied personal space in airport waiting lounges (Dahlman 1973). He defines overcrowding as

"the individual's perception of a situation where his demands for space exceed the available supply of space. Depending on whether the restriction of space is due to physical factors or due to the presence or proximity of other persons, we can talk of non-social and social crowding." (p7).

Dahlman makes a distinction between three different types of factors influencing a crowding experience: environment, social, and personal factors.

"Environmental factors would include space, possibly lighting and noise level, space arrangements. Social factors include status, power, role. Personal factors include momentary states as concentration, arousal etc. and resources as strength, size, intelligence or agility and personal traits." (p 8)

Although I have used some of these distinctions, in practice, in my field study, I did not formulate a coherent theory about crowding and privacy to be consistently applied in the analysis of the three house types. Where the subjective experience of overcrowding is concerned, I concentrated on children sleeping in the same room as their parents, and on desired use of an extra room, but I did not study other kinds of "space violations" and put the various factors into an explicit theoretical framework.

17.4 Theretical comments on the question of neighbourly contact

The collective spatial organisation of the urban Swahili type house has few parallels among the world's house types. I have come across only two similar examples: the *parcels* house of the Belgian Congo (see section 5.7) and the "Brazilian" type house of the Yoruba cities (see section 5.8). Because of the uniqueness of the urban Swahili type house, one could expect few comparisons to be made with other studies of neighbourly relations.

However, all evidence shows that the spatial organisation of the urban Swahili type house is not collective to such an extent that no freedom of choice exists regarding contacts with co-occupants. As noted in section 7.5, a high degree of privacy is possible even in cases when people live close together and share many facilities. Therefore, I think that neighbourly relations in my study are not so

abnormal that they can not be compared to other studies.

In my analysis in chapter 12 I made a distinction between "conflicts" and "co-operation" as expressions of negative and positive neighbourly contact, but I did not regard the making of friends and enemies among one's neighbours as a process, in which some types of relations are qualitatively different from other types of relations. Only after I had completed the processing of my empirical material did I get the opportunity to take part of studies where such an approach has been applied.

Already at the beginning of the 50's Peter H. Mann carried out a study in which he made a distinction between "latent" and "manifest neighbourliness". The former is characterized by favourable attitudes to neighbours so that positive actions can be taken in case of emergency. Latent neighbourliness may develop into manifest neighbourliness, which is characterized by overt forms of social relationships such as mutual visiting (Mann 1954:164). Mann also talks of "overneighborliness" characterized as such a degree or such a type of co-operation which is resented by others.

The approach of Mann is employed by Norman Shulman in his study of Ottawa's "Lower Town East" from 1966. In an article called "Mutual Aid and Neighbouring Patterns" (Shulman 1967) the author presents a number of replies from his interviews, signifying the various types of attitudes to neighbours and neighbourly relations. He also points to the importance of length of residence, showing that almost all respondents involved in "manifest neighbouring" lived in the area for over five years. The following explanation is offered:

"Since a primary relationship involves the right of one person to invade the privacy of the other, most people will require some assurance that such a right will not be abused, before entering into such a relationship." (Shulman 1967:57)

These observations expose a factor of which I had not been sufficiently aware: one's prospect of staying a long time in the house/area. People who expect to stay in the same house/area for many years (e.g. those with a family to support), are probably more careful when making friends and enemies among their neighbours at the same time as they are more likely to develop "manifest neighbourliness" as time goes on. Others (e.g. bachelors without a permanent job) expect to stay in a (Swahili type) house for only a short period, which means that they can afford to take risks concerning their neighbours at the same time as they (as newcomers to town) are probably in greater need of making friends among their neighbours.

of making friends among their neighbours.

Basing himself upon studies of American slums and suburbs, Michelson (1970) draws a similar conclusion. When trying to specify the conditions for friendship pattern to emerge in a neighbourhood, he states that

"There must be a strong or continued need for mutual assistance or contact, such as that among newly arrived homeowners (particularly those with children) lacking

time to seek out friendship elsewhere." (p 186) --- "Once people have remained stationary for a period of time they may be in less need of assistance, their children will have found other friends or indeed grown up, and they are able to perceive differences among themselves..." (p 187)

The study of neighbouring as a process is particularly important in relation to the S, Q and F houses as the situation is very different in the three house types. The S house is regarded, and actually functions as a place for transitory/temporary accommodation (except for the house owners who probably represent the most stable group in my sample), while the Q and F houses represent a more permanent form of accommodation. Since the Q houses have existed for several decades the social situation is already stabilized, while that of the F houses at the time of the field study still represented the prospect of being stabilized.

The process of neighbouring can be divided into various stages. Festinger et al distinguish the following four stages:

1. "Passive contacts", implying that two persons can see each other within the housing area.
2. "Nodding relationships" implying that people recognize each other.
3. "Speaking relationships", which is a condition for
4. "Friendship".

Some other contemporary American researchers (Caplow & Forman 1950) have used a "Neighbourhood Interaction Scale" of seven steps, each step corresponding to the degree of intimacy described by the interview person. The same scale has also been used in a study of San Juan, Puerto Rico (Caplow et al 1964). When planning my field study I was vaguely aware of the need to distinguish between various types of neighbourly relations, but I did not work out a systematic theory for determining the kind of questions to be posed in the interview.

Bell & Westius, who have made an analysis of "some theories of neighbourhoods and neighbouring" (1972, in Swedish, with an English summary), have pointed to the importance of posing the right question and of making a correct interpretation of the replies. They illustrate their point by quoting Kuper, who asked house wives if they borrowed things from their neighbours. Instead of replies about actual behaviour Kuper received replies which he describes as a reflection of a norm:

"Very few of the women accept borrowing and lending as a normal incident of their social relationships; the general standard for the group is disapproval." (Kuper 1953 1953, quoted from Bell & Westius 1972: 84)

While borrowing was considered "improper" as normal behaviour, and, thus, that questions about borrowing in general lead to misleading replies, Kuper found that correct replies about actual behaviour were received to the following question: "In an emergency, to whom would you look for help, if you suddenly ran out of an item of food or needed some household utensils?". My questions about borrowing and lending (nos 40 and 41)

might have had a too inquisitorial wording, but it can be noted that the frequency of "yes" replies are the same for borrowing and lending in the S houses, while there is a discrepancy in the Q houses (table 12:5), which indicates that borrowing money is more accepted in the former house type than in the latter. Question 42 - "If you have finished your money and can not borrow, are you able to eat food at another place?" - implies an emergency situation similar to the one implied in Kuper's question quoted above. It is interesting to note that the replies to this question indicate the largest difference of all my questions about co-operation between the two house types (table 12:5).

Main assumption A in my study implies not only that co-operation but also that conflicts are more likely to occur in the urban Swahili type house. I assumed that co-operation and conflicts may occur simultaneously and this means that a scale ranging from negative to positive contact can not be constructed. Instead an underlying assumption was that it is the frequency of contacts which forms a scale, but this was not made explicit in the plan for my field study.

I believe that the only way to determine whether contacts are "good" or "bad" is to study which are the norms in the community to be studied. This has been indicated by Mann, who writes that

"The danger appears to be that of trying to force upon the tenants a ready-made concept of neighbourliness which is foreign to their nature." (Mann 1954: 164)

In order to find out about existing norms concerning neighbourly relations in a given community the appropriate methods have to be applied. Before directing structured interviews to a statistical sample of individuals it is obviously necessary to employ some type of anthropological techniques. A prerequisite for getting useful information out of a representative sample is, furthermore, that control is established over all variables involved. Mann found that although he selected two very similar housing areas, "it was impossible to match the two estates chosen on more than a few points" (p 165). This was even more difficult in my study.

Bell & Westius make a critical examination on this point of classical studies of neighbourly relations and conclude that

"methodological pluralism should be encouraged: studies performed on the basis of a narrow theoretical and/or methodological framework are likely to be less fruitful than studies based on a multi-methodological approach that includes inductive elements." (from the English summary)

The reason why a multimethodological approach is recommended is that neighbouring is determined by such a complex system of interrelated factors that it can not be analysed with one single method. Bell & Westius are doubtful whether it is at all possible to predict the social content of housing, but they also admit that their main interest is not to analyse the influence of spatial organisation.

Very few attempts seem to have been made to distinguish the various factors influencing the formation of neighbourly relations. One such attempt has been made by Wilner et al in their study of the effects of housing on morbidity and mental health (1962). As their list of factors adhere fairly well to my own conclusions in chapter 12 I want to reproduce it here:

- A type of dwelling architecture which automatically provides opportunities for contacts among a large number of persons.
- A dwelling unit which possesses some esthetic qualities and a sufficient amount of room space.

- The existence of facilities which are used in common by persons in nearby dwelling units.
- A degree of homogeneity in the social and demographic character of the people living near one another.
- Some permanency of residence among contiguous families.

However, the main difficulty does not lie in listing factors, but in determining how these factors relate to each other. Bell & Westius state that the causal relations are complicated and placed emphasis on the question of how norms are formed, but they do not go much further. They indicate in passing that "the mode of production might determine the indi-

Table 17:1. Evaluation of house types.

	NHC Swahili	Private Swahili	NHC Quarters one-family	
<u>Versatility</u>				
topography/townplanning	(+)	+	-	+
generality	+	+	-	-
flexibility	-	+	-	-
elasticity	-	+	-	? ¹
technical adaptability	-	+	-	-
furnishing possibilities	+	? ²	-	?
<u>Micro-climate</u>				
cross-ventilation	-	-	+	-
outdoor shade ³	+	+	(+)	+
radiation from roof ⁴	+	-	?	+
access to air space ⁴	-	+	-	-
rain protection ⁵	+	?	+	+
<u>Traditional values⁶</u>				
plan type	(+)	+	-	(+)
building material	-	+	-	-
construction details	-	+	-	-
<u>Standard of construction</u>				
life span	+	? ⁷	+	+
maintenance required	+	-	+	+
hygiene	+	-	+	+
noise transmission	+	-	?	+
<u>Economics</u>				
cost of construction	(+)	+	(+)	-
local building materials				
industry ⁸	+	-	?	+
local building skills ⁹	+	+	+	+
<u>Crowding, use of space</u>				
separate private rooms	- ¹⁰	- ¹⁰	+	+
communal indoor space	(+) ¹¹	+	-	-
kitchen, functional dimensions ¹²	-	?	(-)	-
storage	(+)	? ¹³	-	+
protection from insight	+	? ¹⁴	(+)	+
provision for outlook	+	+	+ ¹⁵	+
efficiency in movements ¹⁶	-	-	+	-
seclusion of women ¹⁷	-	-	-	+
<u>Neighbourly contact</u>				
disturbance by noise	-	-	-	+
tension and suspicion	-	-	-	+
help in case of emergency	+	+	+	-
privacy, private rooms	? ¹⁸	? ¹⁸	+	+
private kitchen, latrine etc	-	-	+	+
own entrance	- ¹⁹	- ¹⁹	+	+
<u>Security</u>				
sense of security	+	+	-	-
safety against burglaries	+	+	?	-

vidual's perception of himself and his class position" (p 99, translated from Swedish). In my study I have made a few attempts to relate social life in the immediate proximity of an individual dwelling, to society as a whole, but these attempts have been too limited to give satisfactory replies to assumption 4.

Notes

1. Space often allows for the addition of a room, but this is not allowed by the NHC.
2. Depends on the dimensions of the room, the placing of door openings etc, things which may vary in this house type.
3. There is always shade somewhere around a house, but the S and F houses have larger verandahs and eaves.
4. Metal sheet roofing and lack of ceiling make radiation from the sun-hit roof intolerable. This may be counter balanced by access to a large air space under the roof as in case of the private S houses. I do not know about radiation in the Q houses.
5. Rain protection might not be as good in the private S houses in cases where roofing is of thatch or scrap metal.
6. The calculations are based on the assumption that the urban Swahili type house is of Arab-Swahili origin and that this represents a quality in the eyes of the people.
7. The life span of the private S house is probably shorter than for the other house types, but it depends largely on maintenance of the house.
8. The question is whether or not industries with development effect are promoted. As for the Q houses, I do not know if materials such as brick tiles still have to be imported.
9. As no house type is based on capital-intensive methods of construction, local skills are promoted in all house types.
10. Whether another room can be obtained in the S houses is a question of being able to afford it.
11. In the NHC S houses the corridor is too narrow for many activities.
12. In the private S house the dimensions of the kitchen varies. In the Q houses it is probably large enough for cooking, but utensils can not be kept there as no door exists. In the NHC S houses a maximum of three persons can cook comfortably at the same time.
13. The size varies (often there is none).
14. Depends on backyard walls.
15. The Q verandahs are too small, but this might be compensated by the fact that most of the interesting activities are carried out in the central yard.
16. Refers to the discussion of movement patterns in section 10.3.
17. The calculation presupposes that this is something desirable, which is not my opinion.
18. Privacy in the rooms of the S houses seems to depend largely on social life in the house.
19. Usually there is no individual entrance (from the side) to rooms of the S houses.

17.5 Evaluation of house types

In the introduction I mentioned that certain factors led to a shift in emphasis from purpose 2 (evaluation of house types) to other purposes, but this does not mean that my study has not at all contributed to an evaluation of the four studied house types. At the end of the introduction I mentioned all those sections of the thesis where advantages and disadvantages of the house types are discussed. Below I have summarized those users' requirements which have been analysed in this thesis, as well as those which have only been mentioned in passing or not mentioned at all.

I do not claim that the list of users' requirements is complete, neither is any attempt made to put emphasis on the various aspects. I have, however, tried to evaluate the four selected house types for each sub-aspect on the basis of either the findings in this thesis or of my own value judgement. "+" means that a certain criterium is better fulfilled, and "-" that it is not as well fulfilled, in comparison to some kind of norm constituted by the general level of housing in Dar es Salaam such as I conceive it. "?" means that I don't dare to guess. Otherwise the evaluation contains a great deal of highly subjective guesswork. Brackets means "weak indication".

The house type one prefers depends on the emphasis given to the various aspects listed. I will make no attempt to select my "favourite" house type or to combine good elements from the different house types into an "ideal" synthesis. Instead I will give my personal opinion about the four house types studied.

The NHC one-family unit contains most of the usual qualities of the low-cost houses, but it is also burdened by their most characteristic disadvantage: too expensive for normal income groups. Versatility and microclimate is not particularly good, but probably not as bad as in the NHC urban Swahili type houses.

Although I consider the Quarter type house to be a colonial desk construction, it has some definite merits: it allows for cross-ventilation, it seems to be cheap, and it seems to provide for some freedom of choice concerning neighbourly contact. If a roofed outdoor space were provided, rooms made a bit wider, and door openings placed differently to allow for better arrangement of furniture, then I think that this house type could still be attractive - provided that the cost of construction today would allow for a rent per unit at a maximum of 20 per cent of the official minimum wage. However, versatility and traditional values are lacking.

The two S house types are different in most respects except for spatial organisation. I consider versatility, traditional values and economy to be advantages of the private S houses, while standard of construction is advantageous for the NHC version. My personal opinion is that the mud-and-pole urban Swahili type house has enough merits to justify continued constructions, at least as long as temporary accommodation at a low price is demanded by migrating job-hunters in urban areas. Technical improvements such as creosoting

of poles, water-proof plastering, cemented floors and better provision for cross-ventilation could make this house type a still better alternative for urban dwellers in East Africa.

An important disadvantage is, of course, the private ownership of the urban Swahili type houses. If this could be abolished and replaced by some kind of communal ownership house rents could be reduced considerably and neighbourly conflicts could probably be more smoothly solved. Co-occupants would then be bound to co-operate more and take collective responsibility for the house.

17.6 Recommendations for future research

While discussing the various problems in this thesis I have become aware of related problems which ought to be investigated. It also became apparent that certain problems require deeper analysis and/or further investigation by different methods. Suggestions for further studies have already been made in various sections of the thesis. These suggestions are listed below and complemented by some new recommendations.

- My conclusion that the urban Swahili type house probably owes its origin to the Swahili stone house is based on written documents and not on actual field work. Documentation of present day house forms and interviews with key persons about previous house forms, for instance, in Lamu, Mombasa, Tanga, Bagamoyo and Zanzibar could provide better material for testing my cautious conclusion.
- The microclimate of the three house types has not been studied as far as I know. If such a study were to include investigation of variations over the day and the year in air movements, temperature, and shade of the various dwelling spaces, a clearer picture of the qualities of the respective house types could be obtained. Relations to social factors such as use of space could be studied. The allegation that the Swahili type house is not suited to the hot and humid climate could also be tested.
- The versatility of the mud-and-pole Swahili type house was emphasized in section 4.6. This could be further documented by investigating to what extent the possibility for versatility has been used in practice. Variations in plan types are documented in studies such as Karlsson et al (1969), Mugumbya et al (1970) and Olenmark & Westberg (1969), but these variations are not related to social life in the house. Besides present social life, variations in spatial organisation and household requirements during the history of the house could be studied, as in Schwerdtfeger's study in Zaria, Nigeria.
- As part of a study of versatility of the mud-and-pole Swahili type house a special investigation could be made on how participation of the user in the construction of the house influences his awareness of spatial qualities of the house. Special interviews could be directed to the "wafundi" (craftsmen) of mud-and-pole Swahili houses.
- In my study most of the attention has been focussed on the S and Q houses, while the F houses have been studied less. The NHC one-family units could be studied through participant observation. The use of outdoor spaces in an area of such houses could be observed by employed observers.
- An investigation of noise-transmission between the rooms in the respective house types could easily be made in order to provide a basis for evaluating possible disturbance from co-occupants.
- A question which has not been studied enough is how one's prospect of staying in Dar es Salaam or in the house, influences one's housing needs, and, consequently, one's attitudes towards housing in general. The need for "temporary accommodation" could thus also be estimated, especially if related to the general employment situation etc.
- As for use of dwelling spaces, resources did not allow for investigations into variations between individuals and between various educational and income groups. If individual variations are great in one house type and small in another, this could indicate that the former provides more freedom of choice in use of space, which is in fact what is implied in main assumption A and B.
- I recommend, furthermore, that a special study should be made about furniture and furnishing, in relation to the local furniture market as well as to the dimensions and organisations of rooms in existing house types. Such a study could reveal deficiencies both in room dimensions and in furniture construction. The possibility of furnishing for double use of space could also be investigated. The introduction of two-storey beds seems to be a way to decrease a certain type of overcrowding.
- In chapter 10 indications were made as to the need for functional studies of corridors, backyards and kitchens in the urban Swahili type houses. Special functional studies could be carried out for all dwelling spaces in all house types, I think without any large random sample.
- For the problem of crowding, the subjective experiences should be studied more, through participant observation and concrete interview questions, taking the theoretical considerations made in section 17.4 into account. These subjective measures could then be more fruitfully related to the objective measures constructed in chapter 11.
- For the study of both crowding and neighbourly contact a more advanced theoretical exploration of the concepts of privacy and communal life is required. Attitudes to privacy and collectivity in housing should be related to the general ideological content of these concepts. The policy of "ujamaa" (familyship, socialism) might, for instance, stand in contradiction to the concurrence of the capitalist labour market of

the city and thus influence attitudes to crowding and neighbourly contact at the micro-level.

- The effect of private ownership of urban Swahili type houses upon neighbourly relations should also be investigated. House owners probably have special outlooks and special status, which influence the social situation in the house. The existing right of occupancy might be invalidated by the special position of the house owner in urban Swahili type houses. It would be valuable if the possibilities for and effects of communal ownership of this house type could be investigated.
- A special study could be made of the circumstances around change of residence because of social reasons from S and Q houses. Methods should be selected to permit the study of development of conflicts between co-occupants, the role of the house owner, sta-

tus of the one moving etc.

- Further studies of security in the house should take into consideration that interview questions about sense of security should be clear and related to the respondent's own experience of different house types.
- The question of safety against burglaries should be put in a wider perspective by including information about general social security, unemployment, distribution of wealth, class differences, crime statistics etc. Measures against burglaries such as reinforcements of window and door frames, glass splinters on top of backyard walls, closed window shutters etc could be documented and related both to the frequency of theft and to sense of security.
- The problem of magic protection of houses could be studied as a symptom of bad neighbourly relations and urban insecurity in general.

Appendices

Appendix no 1.

INFORMATION SHEET FOR HOUSE OWNERS AND TEN CELL LEADERS

Sehemu:

Mtaa:

Namba ya nyumba:

Balozi wa nyumba kumikumi

Jina:

Mtaa:

Namba ya nyumba:

MAISHA YA JAMII KATIKA NYUMBA ZA DAR ES SALAAM

Mnamo mwezi wa Mei na Juni 1969, Idara ya Elimu ya Maendeleo ya Jamii iliyopo huko kwenye Chuo Kikuu Dar es Salaam itafanya ukaguzi wa kitaalamu juu ya maisha ya jamii katika baadhi ya nyumba za Shirika la Taifa la Nyumba zilizopo Magomeni na Kinondoni.

Madhumuni ya ukaguzi huo ni kutaka kujua hali ya maisha ilivyo katika nyumba za vyumba 6, Kota za Magomeni na katika nyumba za vyumba vitatu ili iwezekane kutengezwa nyumba bora zaidi katika siku zijazo.

Ukaguzi huu utakuwa ni pamoja na mahojiano, uangalizi kwa makini, uchoraji na upigaji picha wa nyumba kadha zilizochaguliwa. Kila mkazi katika nyumba hizo ataombwa ashiriki. Watu watakao ulizwa ni wale wenye nyumba, na wake zao wataulizwa masuala kidogo yanayohusika na kazi za nyumbani na utunazaji wa watoto. Wanafunzi wa Chuo Kikuu ndio watakao yauliza maswali hayo.

Ukaguzi huu utawekwa siri na majina ya wale wanaoshiriki hayatualizwa. Haitatolewa hata chembe habari yo-yote inayohusu jamii yo-yote.

Dar es Salaam, Aprili, 1969

Mr D. U. Vestbro, Research Associate
Idara ya Maendeleo ya Jamii
Chuo Kikuu
Dar es Salaam

Appendix no 2.INSTRUCTIONS FOR OBSERVERS

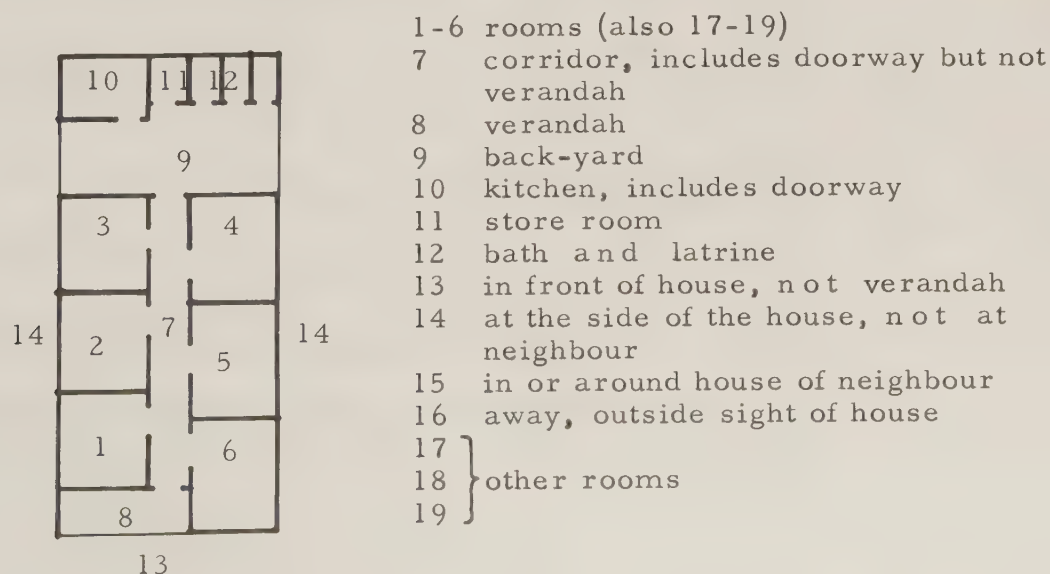
Place yourself where you least disturb the daily routine at the same time as you get maximum view over the household activities. If you prefer to sit in one of the rooms and make frequent visits to the areas in and around the house, make sure that you do not miss any activity.

Do not involve yourself in discussions with the people you observe. If necessary, tell them that you are doing some work for the University College and that you do not want to be disturbed. Try to attract as little attention as possible.

If a person undertakes several activities at the same time or after each other in the same five minutes interval, indicate all in the same box.

If the same activity is going on over a long period of time you may continue with a single line in the table, but do not forget to note if the same activity moves to another place.

If the activity or location of somebody is unknown to you, indicate "?" or leave the space blank until you find out. Do not guess or invent anything that can not be ascertained! You may ask people what they have been doing, but do not interfere too much in their doings.

Key to living spaces in the Swahili type house

Appendix no 3.HOUSEHOLD ACTIVITIES

- S Sleeping: being fast asleep in bed or elsewhere (Resting under N).
- N Doing Nothing: sitting, standing or lying without work; also resting, talking and strolling around in the house without occupation (leaving house for other purpose than shopping or visit under A).
- E Eating: having meals, including drinking tea, coffee etc.
- C Cooking: being busy cooking or preparing food (other activities while pot is boiling under separate headings).
- B Bathing: all kinds of hygiene, washing oneself, going to latrine, putting on make-up.
- H Housework: washing dishes, sweeping, cleaning furniture, fetching water or receiving water seller, sewing, making beds etc (working for money under J).
- P Plaiting hair: including both parties involved.
- K Taking care of children: washing, nursing, comforting and carrying child on back; relevant also to the child being cared for (note: children may take care of each other, playing under Y).
- G Receiving Guest: including receiving neighbours (if visitor present without occupying anyone in house, write "guest" in margin).
- Y Playing: children's play, adults playing with children, playing card, football, bao etc (note what kind of play in margin: running around, sitting with stones, throwing ball etc).
- O Shopping: going to market, shop or buying from passing vendor (note: make sure that shopping is the object of leaving house; if other object as well indicate both; if unknown destiny mark "?").
- V Visit: going to see friend, relative or neighbour (note: make sure that this is the object of leaving house; if other object as well indicate both; if you do not know, write "?").
- J Job: going to or being at one's job, whether wage earner or self-employed (housework under H).
- A Away: going or being away for other reasons than shopping or visit, going for a walk, to hospital etc.
- x Others: if no other heading relevant, repeat "x" in margin and specify, to be used for all kinds of remarks.
- ? Do not know: should be indicated whenever an activity is unknown to observer; do not invent anything; if uncertain, write in brackets (0).

Appendix no 4.QUESTIONNAIRE

1. HOW DO YOU SEE LIFE IN MAGOMENI/KINONDONI?
 2. HOW DO YOU SEE LIFE IN THIS HOUSE?
 3. DO YOU THINK THERE ARE PROBLEMS ASSOCIATED WITH A HOUSE OF THIS TYPE? WHICH?
 4. WHAT KIND OF PEOPLE DO YOU LIKE TO HAVE AS NEIGHBOURS?
 5. WHAT KIND OF NEIGHBOURS BRING MOST TROUBLE TO OTHERS?
 6. WHEN DID YOU FIRST COME TO LIVE IN DAR ES SALAAM?
 7. IN WHICH KIND OF HOUSE DID YOU LIVE THEN? WHEREABOUT WAS IT? Inarea. House type:
 8. NOW I WOULD LIKE YOU TO DESCRIBE TO ME THE LAST THREE HOUSES YOU HAVE BEEN LIVING IN? LET US BEGIN WITH THE HOUSE YOU LIVED IN BEFORE YOU MOVED INTO THE PRESENT ONE. WHAT TYPE OF HOUSE WAS IT? WHEREABOUT WAS IT? HOW LONG DID YOU STAY IN THAT HOUSE?
- | Time | Area | House type |
|----------|------|------------|
| a) | | |
| b) | | |
| c) | | |
9. IF YOU COMPARE THESE HOUSES, WHICH ONE DID YOU LIKE MOST? WHY?
 10. AND WHICH HOUSE DID YOU LIKE THE LEAST? WHY?
 11. If tenant: DID YOU FIND THIS ROOM ENTIRELY BY YOURSELF OR DID SOMEONE HELP YOU?
- | | |
|--------------------------|---|
| ☐ | a. Entirely by myself |
| ☐ | b. Employer arranged it |
| ☐ | c. Friend/relative helped me |
| ☐ | d. Through NHC |
| ☐ | e. By marriage, through boy/girl-friend |
- Others, specify:
12. If a or c: HOW LONG WERE YOU/YOUR FRIEND/RELATIVE LOOKING BEFORE YOU FOUND THIS HOUSE?
 13. If tenant: DID THE HOUSE OWNER MAKE ANY CONDITIONS FOR ACCEPTING YOU AS A TENANT? WHICH?
 14. If house owner: HOW DID YOU GET THIS HOUSE?
- | | |
|--------------------------|-------------|
| ☐ | Inherited |
| ☐ | Through NHC |
| ☐ | Bought it |

☐	Built it myself
☐	By government

Others, specify:

15. ARE YOU AT PRESENT LOOKING FOR A ROOM FOR SOMEONE ELSE ?
16. If S or Q house: BEFORE YOU MOVED INTO THIS HOUSE, DID YOU ALREADY KNOW SOMEONE IN THE HOUSE ?
17. DID YOU KNOW SOMEONE IN THE SAME STREET ?
18. If S or Q house: BEFORE YOU MOVED INTO THIS HOUSE DID YOU KNOW:

Yes		No	
☐	a.	☐	HOW MANY PEOPLE THERE WERE IN THE HOUSE ?
☐	b.	☐	HOW MANY CHILDREN THERE WERE ?
☐	c.	☐	HOW MANY OF THE TENANTS THAT WERE MARRIED ?
☐	d.	☐	THE RELIGION OF MOST PEOPLE IN THE HOUSE ?
☐	e.	☐	THE TRIBES OF MOST PEOPLE IN THE HOUSE ?
☐	f.	☐	WORK OF MOST PEOPLE IN THE HOUSE ?

19. IF YOU THINK OF THE RELATIVES YOU HAVE IN DAR ES SALAAM, WHO IS LIVING CLOSEST TO YOUR PLACE ? WHERE IS/HE/SHE LIVING ?
20. WHERE DOES YOUR BEST FRIEND LIVE ?
21. WHAT MADE YOU MOVE FROM YOUR PREVIOUS HOUSE ?

If not forced to move: DID YOU FIND THAT:

Yes		No	
☐	a.	☐	THE RENT WAS TOO HIGH IN THE PREVIOUS HOUSE ?
☐	b.	☐	THE PREVIOUS HOUSE WAS TOO SMALL ?
☐	c.	☐	IT WAS FAR FROM WORK ?
☐	d.	☐	THE HOUSE HAD NO WATER ?
☐	e.	☐	THE HOUSE HAD NO ELECTRICITY ?
☐	f.	☐	THE HOUSE WAS IN BAD CONDITION ?
☐	g.	☐	THE AREA DID NOT PLEASE YOU ?
☐	h.	☐	YOU DID NOT LIKE THE PEOPLE IN THE HOUSE ?
☐	i.	☐	YOU COULD NOT GET ALONG WITH THE HOUSE OWN OWNER ?
☐	j.	☐	THERE WAS TOO MUCH NOISE ?
☐	k.	☐	YOU WANTED TO LIVE CLOSER TO RELATIVES/ FRIENDS ?
☐	l.	☐	YOU WANTED A ROOM OF YOUR OWN ?
☐	m.	☐	YOU WERE AFRAID OF WITCHCRAFT ?
☐	n.	☐	YOU WANTED TO LIVE FURTHER AWAY FROM RELATIVES ?

If not forced to move: IF YOU THINK OF ALL THESE REASONS FOR MOVING, WHICH WAS MOST IMPORTANT ?

22. NOW, ARE YOU HAPPY THAT YOU MOVED TO THIS HOUSE ?

23. IF YOU HAD ANOTHER ROOM WHAT WOULD YOU USE IT FOR ?

☐
☐
☐
☐
☐
☐

Children and parent would sleep separate

Keep it as a living room

Keep it for guests

I would let it

Friend or relative would move here

Do not know

Others, specify:

24. WHO IS LIVING WITH YOU ?

Position in household	Age	Sex	Marital status	Occupation	District of birth place	Religion	Tribe
-----------------------	-----	-----	----------------	------------	-------------------------	----------	-------

1.
 2.
 3.
 etc.

25. WHERE DO THEY SLEEP ?

26. If S house: HAS IT EVER HAPPENED THAT ANYONE IN THE HOUSE HAS BEEN SLEEPING IN THE CORRIDOR DURING NIGHT ?

If yes: WHY ?

27. IS THERE ANYBODY WHO SLEEPS IN THE COURTYARD OR VERANDAH DURING THE NIGHT ?

28. HAS IT EVER HAPPENED THAT FRIENDS OR RELATIVES HAVE BEEN SLEEPING IN THE SAME ROOM AS YOU (AND YOUR FAMILY) ?

29. AT WHAT AGE DO YOU THINK CHILDREN SHOULD NOT SLEEP IN THE SAME ROOM AS THEIR PARENTS ?

30. IN YOUR HOME AREA, UNTIL WHAT AGE DO CHILDREN USUALLY SLEEP IN THE SAME ROOM AS THEIR PARENTS ?

31. NOW I WANT TO ASK YOU HOW YOU SPENT YOUR DAY YESTERDAY FROM THE TIME YOU WOKE UP TILL THE TIME YOU WENT TO SLEEP. WHAT WAS THE FIRST THING YOU DID IN THE MORNING? AT WHAT PLACE DID YOU DO IT? WHAT TIME ?

Activity

Place

Time

- a)
 b)
 c)
 d)
 etc.

32. WITH WHOM DID YOU SHARE YOUR MEALS YESTERDAY? WHERE DID YOU EAT THEM?

First meal with in

Second meal with in

Third meal with in

Fourth meal with in

33. DID YOU VISIT ANY FRIENDS/RELATIVES YESTERDAY? WHERE? FOR HOW LONG TIME?

☐

No

Yes, friend/relative in street..... area, for hours

34. DID ANY FRIEND/RELATIVE VISIT YOU YESTERDAY? FOR HOW LONG? WHERE DID YOU STAY FOR CONVERSATION?

☐

No

Yes, friend/relative for hours in

35. If S or Q house: DO YOU EVER HAVE YOUR MEALS WITH SOMEONE ELSE IN YOUR HOUSE? (APART FROM YOUR OWN HOUSEHOLD)

36. If Muslim: WITH WHOM DID YOU EAT DURING RAMADHAN? WHERE?

37. If man in couple: WHO IS COOKING FOR YOU WHEN YOUR WIFE IS ILL OR AWAY?

38. If single man: WHERE DO YOU USUALLY COOK?

If not in kitchen: WHY DO YOU NOT COOK IN THE KITCHEN?

39. If single or wife: WHO IS COOKING FOR YOU WHEN YOU ARE ILL IN BED AT HOME?

40. HAVE YOU EVER BORROWED FROM ANYBODY IN THIS HOUSE/STREET?

41. HAVE YOU EVER LENT MONEY TO ANYONE LIVING IN THIS HOUSE/STREET?

42. IF YOU HAVE FINISHED YOUR MONEY AND CANNOT BORROW ARE YOU ABLE TO EAT FOOD AT ANOTHER PLACE?

43. WHICH PERSON IN THIS HOUSE/STREET ARE YOU MOST FAMILIAR WITH?

44. AND WHICH DO YOU HAVE LEAST CONTACT WITH?

45. NOW I WANT TO ASK YOU ABOUT SAFETY OF THE HOUSE. WHEN DO YOU LOCK YOUR DOOR?

☐
☐
☐
☐
☐
☐
☐

My wife locks

When I go to courtyard or verandah

When I go to neighbour

When I go to the shop

When I go to town

Never

No lock

46. If S or Q house: HAS ANYONE IN THE HOUSE GOT A KEY WHICH FITS YOUR DOOR ?
47. HAVE YOU EVER HAD ANY THEFT ? HOW MANY TIMES ?
If yes: LAST TIME WHAT WAS STOLEN ? HOW WAS IT DONE ?
WHAT TIME ?
48. DO YOU THINK IT IS GOOD TO HAVE A JINI OR DAWA TO PROTECT YOURSELF ?
49. If S or Q house: DO YOU TRUST YOUR NEIGHBOURS IN YOUR HOUSE ?
50. WHAT DO YOU THINK THAT PEOPLE USUALLY QUARREL MOST ABOUT IN THIS AREA ?
51. HAS IT HAPPENED THAT YOU HAVE QUARRELLED WITH ANYBODY IN THIS HOUSE/STREET ?
If yes: ABOUT WHAT ?
52. DO YOU THINK THAT SINGLE AND MARRIED PEOPLE SHOULD LIVE IN THE SAME HOUSE ?
If separated: WHY ?
53. IS IT MORE DIFFICULT TO FIND A ROOM FOR A SINGLE PERSON THAN FOR A COUPLE ?
54. WOULD YOU LIKE TO MOVE FROM THIS HOUSE ?
If yes: WHY ?
55. If not forced to move: DO YOU WANT TO MOVE FOR THESE REASONS:

Yes

No

THE RENT IS TOO HIGH

THE SPACE IS SMALL

IT IS FAR FROM WORK

THERE IS NO WATER

THERE IS NO ELECTRICITY

THE HOUSE IS IN BAD CONDITION

THE AREA IS NOT PLEASING

I DO NOT LIKE THE PEOPLE IN THE HOUSE

I DO NOT GET ALONG WITH THE HOUSE OWNER

THERE IS MUCH NOISE

THERE ARE MANY QUARRELS

I WANT A HOUSE OF MY OWN

I WANT TO LIVE NEAR FRIENDS/RELATIVES

BECAUSE OF WITCHCRAFT

Others, specify:

56. HAVE YOU TRIED TO LOOK FOR ANOTHER HOUSE ?

If yes: HAVE YOU:

ALREADY FOUND A PLACE TO MOVE TO ?

APPLIED AT NHC ?

ASKED FRIENDS/RELATIVES TO LOOK FOR YOU ?

STARTED TO BUILD YOUR OWN HOUSE ?

LOOKED FOR A ROOM AT OTHER PLACES ?

57. If applied at NHC: HOW LONG HAVE YOU BEEN WAITING ?

HOW MUCH LONGER DO YOU EXPECT TO WAIT ?

WHICH HOUSE TYPES DO YOU EXPECT TO GET ?

58. If building own house: HOW MANY ROOMS WILL THERE BE IN YOUR HOUSE ?

59. If building own house: WILL YOU LET ANY OF THE ROOMS ?

60. WHAT IS THE BEST THING ABOUT THIS HOUSE ?

61. WHAT IS THE WORST THING ABOUT THIS HOUSE ?

62. WHAT CHANGES IN THE HOUSE WOULD PLEASE YOU ?

63. If house owner: WHAT KIND OF PEOPLE DO YOU PREFER AS TENANTS ?

64. If house owner: WHAT IS THE MOST FREQUENT REASON TO MAKE PEOPLE MOVE ?

65. If S house: WOULD YOU LIKE TO HAVE THE DOOR TO YOUR ROOM TOWARDS THE CORRIDOR OR OUTSIDE ?

If opinion: WHY ?

66. HOW MUCH DO YOU PAY IN RENT ?

67. HOW MUCH DO YOU PAY FOR WATER AND ELECTRICITY ?

68. WHERE IS YOUR PLACE OF WORK ?

69. IN THE LIST WHICH FOLLOWS, WHICH SECTION IS YOUR MONTHLY SALARY IN ?

Less than Shs. 100

100-179

180-249

250-349

350-449

450-599

600-799

800-999

1000 or more

Not stated

70. IF YOUR WAGE WAS INCREASED BY SHS. 100 WOULD YOU LOOK FOR ANOTHER HOUSE ?

71. If yes or maybe: WHAT KIND OF HOUSE WOULD YOU PREFER ?

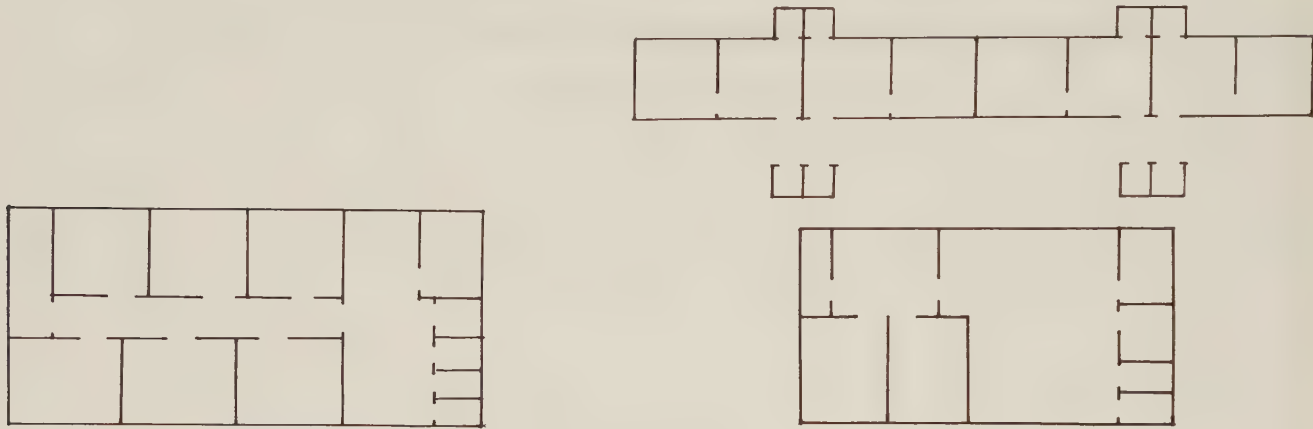
Additional questions for wives

1. HOW MANY STOVES DO YOU HAVE? WHAT TYPES?
Charcoal
Kerosene
Gas stove
Other.....
2. HOW MUCH CHARCOAL OR KEROSENE DO YOU USE PER MONTH?
19. WHAT DID YOU EAT YESTERDAY? WHERE DID YOU COOK?
23. If own children: WHO LOOKS AFTER YOUR CHILDREN WHEN YOU ARE ILL OR ON A JOURNEY?
24. If children of others in the house: AT OTHER TIMES, DO YOU USUALLY LOOK AFTER THE CHILDREN OF OTHERS IN THIS HOUSE?

Appendix no 5.

INTERVIEWER S COMMENTS ABOUT THE INTERVIEW

Date of interview; husband: wife:
Name of interviewer:
Husband: wife/neighbour/guest present from question no..... to no
Wife: husband/neighbour/guest present from question no..... to no
Time taken by the interview; husband:..... hours and minutes
wife:..... hours and minutes
Type of house (underline): NHC 6-roomed, NHC 3-roomed, Self-built 6-rooms,
Quarters. Mark on plan which room(s) respondent occupies



Understanding: Respondent had

Hoh	wife
☐	☐
☐	☐
☐	☐

No difficulties in understanding the questions
Some difficulty is understanding questions no
Found the whole interview very difficult

Reaction and Participation: Respondent was

☐	☐
☐	☐
☐	☐
☐	☐

Very co-operative and/or interested in many questions
Very talkative
Very tight mouthed
Suspicious

☐	☐
☐	☐
☐	☐

All the time
At the beginning
Only at specific questions, namely no

☐	☐
--------------------------	--------------------------

Bored

☐	☐
☐	☐

All the time
Towards the end

☐	☐
☐	☐

Wanted to discontinue during the interview at question no
Probably gave misleading answers to questions no

Comments on particular difficulties:
.....
.....

List of literature

The list includes all documents referred to in the thesis plus a limited number of titles, which are not mentioned in the text, but which are considered to have played a role for the content of the thesis. Titles marked with "*" signify titles of particular importance.

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